The social and emotional foundations of learning

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The goal of this chapter is to assess and discuss research and knowledge concerning the significance of social and emotional learning (SEL) in educational practices. The chapter first discusses the nature of learning, which is inherently social, relational and affective. The concept and definitions of SEL are introduced to synthesize the debate around how social and emotional experiences interact with learning processes. Then the development of socio-emotional skills across the lifespan with regards to neurobiological, social, and cultural factors is discussed, highlighting the important role of assessment in bringing a disciplined focus to SEL in schools. Applied research that describes interventions, programmes and policies geared towards promoting SEL and that can inform educational practices is then presented. The chapter concludes by recommending that SEL practices and policies should be responsive to context and culture, be informed by neurobiological development, and take into account educators' social and emotional capacities.

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CHAPTER

4.1 Social and emotional nature of learning experiences

In this section we discuss the nature of learning, which is inherently social, relational and affective. We introduce the concept and definitions of social and emotional learning (SEL) and synthesize knowledge around how social and emotional experiences interact with the learning processes.

4.1 .1 A DEFINITION OF SOCIAL AND EMOTIONAL LEARNING

Interactions between social and

Social and emotional experiences drive and shape learning; it is impossible to remove the social and emotional aspects of human experience from the process of learning.

emotional development and learning are complex. Social and emotional experiences drive and shape learning; it is impossible to remove the social and emotional aspects of human experience from the process of learning. Social and emotional skills are also shaped by education and the learning experience. As Immordino-Yang and Damasio **(2007)** assert, 'The aspects of cognition that are recruited most heavily in education, including learning, attention, memory, decision-making, motivation, and social functioning, are both profoundly affected by emotion and in fact subsumed within the processes of emotion' **(p.7)**. Hence, how we feel affects how we learn, and can be a tool for shaping what we learn.

The social and emotional foundations of learning are linked to a series of factors that shape individual's health, well-being, decision-making and life outcomes. Learning within a social context both contributes to, and builds on, intersubjective, affective bonds. There is a substantive body of research on the affective nature of education **(see, e.g. Ringrose and Renold, 2011; Hickey-Moody 2013a, 2013b; Dernikos et al., 2020, Franklin-Phipps, 2020; Zarabadi, 2020)**. This work argues that as learning is a form of being affected – of increasing or decreasing one's capacity to act – then affect needs to be considered as the primary vehicle of education.

Because of the expansive nature of the subject, SEL is discussed in many academic disciplines and each discipline defines SEL slightly differently. For the purposes of this chapter, we take SEL to mean 'the learner's experiences of contexts and emotions related to learning and embedded in learning'. Other related terms such as 'social and emotional skills', 'social and emotional competencies', and 'non-cognitive skills' **(Chatterjee and Duraiappah, 2020)** are popularly used in academic discussions of SEL. Although these terms are not interchangeable, here we consider them all to be subsumed under the umbrella of SEL. For example, socio-emotional skills have been previously defined by UNESCO as 'the competencies, skills and/or

attitudes [allowing] to recognise and manage emotions, develop caring and concern for others, establish positive relationships, make responsible decisions and handle challenging situations' **(Payton et al., 2000; Greenberg et al., 2003; Weisberg et al., 2015, cited in Chatterjee and Duraiappah, 2020)**. We see the development of these skills as both a goal and by-product of a healthy SEL environment.

In many parts of the world SEL improvement efforts have focused on addressing students' (and occasionally teachers') mental health. Efforts have focused also on supporting moral or 'character' development, and, at times, have evoked religious traditions in doing so. While these can be part of SEL, we argue that SEL is something broader. SEL is not merely the absence of mental health challenges, but also a space in which well-being can flourish. (The concept of well-being is certainly multidimensional, covering anything from cognitive appreciations of one's satisfaction with life up to subjective, highly affective experiences of happiness (for a discussion of psychological, social and emotional wellbeing, **see Keyes and Waterman, 2003**. It is not merely about being morally 'good' or conforming to culturally acceptable practices and manners, but about developing the ethical and emotional ways of living a life of purpose, service and honour. Research shows that effective and sustainable SEL efforts are instructional (i.e. teaching and learning are recognized as social and emotional) and systemic (i.e. attempting to create a school climate that feels safe, supportive, affirming and engaging to diverse learners).

SEL is not merely the absence of mental health challenges, but also a space in which well-being can flourish.

In addressing the systemic nature of SEL it is important to understand social and cultural dynamics instead of focusing on the individual alone. A more sociological approach can help us shed light, for example, on the value of group belonging, social class and different kinds of capital for these interconnected processes **(Bourdieu, 1986)**. Indeed, health, well-being and learning outcomes are known to widely relate to such sociological variables

Taking the concrete example of well-being, it has long been acknowledged that instead of considering it as an individual property, we should approach it in a systemic manner, as dependent on affective forms of learning with and from others.

(Williams, 1995). Moreover, there are marked inequalities revealed by these sociocultural analyses **(Gatrell, Popay and Thomas, 2004)**. These inequalities are reflected early, in the quality of education and in the presence or absence of solid social and emotional foundations for learning.

Taking the concrete example of well-being, it has long been acknowledged that instead of considering it as an individual property, we should approach it in a systemic manner, as dependent on affective forms of learning with and from others **(Bagdi and Vacca, 2005)**. Overall, well-being is intimately related, as argued here, with the opportunities available to learn and create in society. Being part of oppressed or marginalized communities diminishes one's positive appreciation of life, in part through a reduction of perceived possibilities to learn, grow and create. This is why SEL needs to address the broader ecology of which the learner is part. Tim Lomas **(2015)** argues, in this regard, for the importance of adopting a sociocultural, systems perspective when it comes to SEL interventions – that is, design systems in ways that address individuals, groups, and communities, as well as cultural context, class and capital, as a whole. Research that informs well-designed SEL programmes indicates also that emotions and relationships affect how and what is learned, and thus should be foregrounded **(Izard, 2002; Spinrad and Eisenberg, 2009)**.

4.1 .2

SOCIAL EMOTIONS IN EDUCATIONAL SETTINGS: EFFECTS ON LEARNING OF WHAT STUDENTS FEEL

The emotions that students experience in school, that is, what they feel, can affect how they perceive and perform in school. Different emotional feelings differently impact performance.

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Contemporary researchers in educational psychology recognize that emotions are not merely byproducts of achievement that lack instrumental relevance, but that they are critically important for cognitive performance, academic attainment, career trajectories and health, as well as institutional and national productivity.

4.1 .2 .1

EMOTIONS IN ACADEMIC ENVIRONMENTS

In the past twenty years there has been an exponential increase in studies of affect in education. Contemporary researchers in educational psychology recognize that emotions are not merely by-products of achievement that lack instrumental relevance, but that they are critically important for cognitive performance, academic attainment, career trajectories and health, as well as institutional and national productivity **(Pekrun and Linnenbrink-Garcia, 2014; for meta-analyses, see Hembree, 1988; Tze, Daniels and Klassen, 2016; Loderer, Pekrun and Lester, 2018; Camacho-Morales et al., 2020)**. Given the importance of formal education and academic attainment across the life course, and of social interactions between peers and with teachers, these emotions occur frequently and can be very intense. This is true for positive and negative emotions. Curiosity, hope and pride, for example, can be strong drivers of learning, as can negative emotions like anger. Studies have shown that students frequently experience negative emotions in school, including anxiety, shame, guilt and hopelessness, and when experienced chronically or intensely, these can jeopardize well-being **(Pekrun et al., 2002)**. The field of educational psychology has seen substantial growth in research on test anxiety driven by the need to deal with the affective consequences of widespread mass testing and sorting of students introduced in the decades before and after the Second World War. For example, up to 40 per cent of students are reported to experience excessive test anxiety **(Bogels et al., 2010)**.

In an educational setting, emotions are generally classified according to valence, degree of activation and object focus **(Barrett and Russell, 1998; Pekrun, 2006)**. In terms of valence, positive (i.e. pleasant) emotions are distinguished from negative (i.e. unpleasant) emotions, such as pleasant enjoyment versus unpleasant anxiety. Physiologically

Emotional competencies include abilities to identify, use and manage one's own and other persons' emotions.

activating or arousing emotions are distinguished from deactivating emotions, such as anger versus hopelessness. In terms of object focus, Pekrun **(2006)** and others have identified distinct groups of emotions in school that are important:

1. achievement emotions relate to achievement activities and their success and failure outcomes, such as enjoyment of learning, hope for success or anxiety before an exam;

2. epistemic emotions are generated by the cognitive response to learning materials, such as surprise, curiosity and confusion;

3. topic emotions pertain to the topics presented in class, such as empathy with the characters portrayed in a novel;

4. social emotions relate to teachers and classmates, such as compassion, admiration, contempt, envy, anger or social anxiety in the classroom.

EMOTIONS AND ACADEMIC ACHIEVEMENT

Emotions profoundly influence cognitive and behavioural processes **(Barrett, 2017)**. Emotional competencies include abilities to identify, use and manage one's own and other persons' emotions (emotional intelligence) **(Matthews, Zeidner and Roberts, 2002)**. Positive emotions have been shown to promote students' interest, motivation to learn, self-regulation of learning and use of flexible and deep learning strategies **(Fredrickson, 2001)**. However, when students experience positive emotions that are irrelevant to the learning task (e.g. excitement for a date after school or pride in having helped a relative) these emotions can interfere with learning. Similarly, negative activating emotions, such as anxiety, anger and confusion, can have beneficial or adverse effects on learning. For example, anxiety can reduce intrinsic motivation (i.e. motivation that is based on interest and

enjoyment) and flexible learning, but can also increase extrinsic motivation to invest effort in order to avoid failure. Negative deactivating emotions, such as hopelessness and boredom, generally exert detrimental effects on motivation and learning. Given the complexity of these effects, it would be misleading to assume that positive emotions are always beneficial and negative emotions just detrimental. Longitudinal psychological research suggests that students' emotions and their achievement are linked reciprocally over time **(e.g. Pekrun et al., 2017)**.

While emotional competencies can strongly impact academic outcomes, the opposite is also true. For students and teachers, individual appraisals related to learning, teaching and achievement in school are especially charged emotionally. Depending on the way students interpret their experiences, academic success may promote positive emotions, whereas failure may exacerbate anxiety, shame, hopelessness and boredom during learning and test taking **(see Meece, Wigfiled and Eccles, 1990; Pekrun et al., 2017)**.

Quality of classroom instruction, test taking procedures and social environments, including family and peer groups, are important environmental factors impacting students' emotions.

Quality of classroom instruction, test taking procedures and social environments, including family and peer groups, are important environmental factors impacting students' emotions. Related empirical evidence mainly pertains to students' test anxiety. Competition in the classroom, lack of structure in classroom instruction and lack of transparency in the demands of tests and exams are associated with elevated levels of student anxiety, likely because they reduce students' sense of control and generate expectations of failure **(Zeidner, 1998)**. As described in Pekrun's control-value theory (CVT) **(Pekrun, 2006, 2018)** and shown in empirical research **(Pekrun and Perry, 2014; Putwain et al., 2018)**, two groups of appraisals are particularly important: perceived control over achievement activities and their outcomes, and their perceived value (i.e. subjective importance). For example, enjoyment of studying is increased

when a student feels competent to master the learning material (high control) and is interested in the material (high value). Fear of failure is aroused when there is a perceived lack of control over performance in a pending exam, implying that failure is possible, combined with the perceived high importance of the exam. Other factors indirectly influence emotions. Understanding of their gender identity and its significance in their social context influences students' emotions related to school subjects such as maths and language classes. For example, female students in cultures with prevalent stereotypes about females' quantitative skills often report higher maths-related anxiety and shame and lower enjoyment than males, likely due to their lower competence beliefs

Psychological approaches to motivation provide a theory of human drive, which is important for fostering academic engagement and achievement.

in this domain **(Goetz et al., 2013)**. Research has found that while level of achievement anxiety differs between genders and countries, its relation to academic achievement is equivalent across these variables (summary of evidence) **(Pekrun, 2018)**. For example, in the 2012 cycle of the OECD Programme for International Student Assessment (PISA), students' anxiety and achievement in mathematics correlated negatively in all of the sixty-four participating countries, and all of these correlations but one were significant **(OECD, 2013)**. Beyond anxiety, teachers' enjoyment of teaching and expressed enthusiasm positively influence students' enjoyment of learning **(Frenzel et al., 2018)**. Finally, research on the effects of classroom composition has found that higher class-average achievement reduces students' positive emotions and increases their negative emotions, such as maths anxiety **(Pekrun et al., 2019)**. The findings suggest that being a member of a high-ability classroom can be detrimental to emotional well-being, likely due to a problematic culture that rewards success relative to one's peers and reduced chances to succeed relative to others in such a classroom. These perspectives are a psychological approach to social and emotional engagement with curriculum and learning in schools and have popular and academic appeal in educational practice. Notably, other fields, including the sociology of education, criticize such approaches as not sufficiently attending to the structural, cultural factors that lead to students experiencing these emotions **(Harwood, 2003, 2006)**.

MOTIVATION AND SELF-DETERMINATION

Emotions can also impact learning and achievement through motivation and self-determination. Psychological approaches to motivation provide a theory of human drive, which is important for fostering academic engagement and achievement **(Collie et al., 2019)**. Motivation theories also hold promise for understanding

Self-determination theory asserts that the fulfilment of three basic psychological needs – autonomy, competence and relatedness – promotes optimal human functioning.

and promoting socio-emotional skills and their development among students. At school (and throughout life), individuals are called upon to interact with others and make sense of their emotional experiences. Motivation theories, like self-determination theory, can help to understand underlying mechanisms, which then can be useful for supporting socio-emotional skills development and other positive academic and well-being outcomes **(Collie, 2020)**.

Self-determination theory asserts that the fulfilment of three basic psychological needs – autonomy, competence and relatedness – promotes optimal human functioning **(Ryan and Deci, 2017)**. Although examined largely in relation to academic outcomes, these basic psychological needs are also relevant to SEL and its development **(Collie, 2020)**. In this context, autonomy reflects a student's sense that they have a say in how they think, act and feel in social or emotional situations and interactions, and that their choices in these socio-emotional domains reflect their genuine wishes.

Competence reflects students' sense that they are effective in their social and emotional interactions and that they are able to express their social and emotional abilities. Relatedness reflects students' experiences of positive and mutually reciprocal relationships with their teachers and peers at school. When students experience a sense of autonomy, competence and relatedness in their social and emotional interactions at school, this helps to promote autonomous motivation **(Ryan and Deci, 2017; Collie, 2020)**. Autonomous motivation involves being motivated by inherent interest and enjoyment in an activity, or by internal endorsement of the activity and its importance **(Ryan and Deci, 2017)**. Social and emotional autonomous motivation involves being motivated to act in a socially and emotionally competent way due to interest or enjoyment, or by consequences that are valued despite being external to the individual. Examples of socio-emotional autonomous motivation include a student helping out a good friend because it is enjoyable or

sharing a favourite toy because they would appreciate the same kindness reciprocated in future. Negative emotions can also be part of autonomous motivation. For example, anger about a societal injustice might make a student believe in the importance of studying and working to rectify that injustice. Psychological research shows that autonomously motivated students engage in behaviours that are socially and emotionally competent such as being able to freely express their feelings, causing fewer disruptions in the classroom and engaging in more defending behaviours to support victims **(Aelterman, Vansteenkiste and Haerens, 2019; Longobardi et al., 2020)**.

Self-determination theory provides an understanding of the mechanisms and manifestations that underlie SEL. The basic psychological needs and autonomous motivation reflect the mechanisms of SEL because they provide understanding about why students engage in particular behaviours at school **(Collie, 2020)**. If a child feels confident at interacting with peers (competence), the child is more likely to be autonomously motivated to collaborate effectively with others at school, and will then enact behaviours to support this (e.g. taking turns in group work) **(Cheon, Reeve and Ntoumanis, 2018)**. Notably, the three components (basic psychological needs, motivation and behaviours) are central to students' ongoing development of socio-emotional skills and also help to lay a foundation for successful learning **(Collie, 2020)**. More precisely, the three components drive and shape learning because they influence how students manage their social and emotional experiences in school. Students who are better able to manage the varied social and emotional experiences that they encounter across a school day or week are in a better position to attain more positive academic outcomes, including academic engagement, achievement and school completion **(e.g. Doctoroff et al., 2016; Collie et al., 2019)**.

Self-determination theory provides an understanding of the mechanisms and manifestations that underlie SEL.

While acknowledging that by their very nature, schools are social

Interventions aimed at promoting emotion regulation have shown that emotions and achievement outcomes are often linked. Four strategies are especially important in these interventions.

institutions in which students learn socio-emotional skills in implicit and unintentional ways, educational psychologists have also fostered approaches to learning that include emotion regulation and motivation interventions (see also section 4.3.3 for a general discussion on SEL programmes and interventions). Interventions aimed at promoting emotion regulation have shown that emotions and achievement outcomes are often linked. Four strategies are especially important in these interventions **(Pekrun, 2006, 2018)**:

1. influencing emotions by selecting and modifying situations and tasks (situation-oriented regulation);

2. altering the cognitive processes prompting emotions, including (re-)directing attention and changing appraisals (attention- and appraisal-oriented regulation);

3. directly changing the component processes that are part of the emotional response (emotion-oriented regulation); and

4. improving one's competencies to enable successful learning, promoting positive emotions and reducing negative emotions (competence-oriented regulation).

Whereas targeted treatments for academic emotions other than anxiety are largely lacking, research on therapy of test anxiety has shown that combinations of cognitive (i.e. appraisal-oriented) therapy and competence-oriented skills training can be especially effective **(Zeidner, 1998; Putwain and von der Embse, 2020**

4.1 .3

SOCIAL EMOTIONS IN LEARNING CONTEXTS: EFFECTS ON LEARNING OF HOW STUDENTS FEEL

While the emotional feelings students experience can impact their academic performance, it is critical to consider not only

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Play is a multifaceted concept that can be thought of as a disposition, attitude or activity that is voluntary, pleasurable and intrinsically motivating

what they are feeling in school, but how they are feeling in school **(Immordino-Yang, 2015)**. That is, more than just a student's particular emotions, but the way in which they come to build and understand their emotional feelings is a critical tool shaping their learning and evidence of the learning itself. Educators have a powerful opportunity to create productive SEL when they scaffold young people in understanding how they feel, that is, guiding the way they make meaning of their experiences. For more than a century, expert educators and developmental scholars like Montessori and Vygotsky have noted that play is a critical way in which young people come to make sense of their world and their role within it. As educators and therapists have long observed, there is a reciprocal relationship between how people understand their experiences and their well-being, which guides their learning and future action.

4.1 .3 .1 PLAY AND INFORMAL LEARNING

Play is a multi-faceted concept that can be thought of as a disposition, attitude or activity that is voluntary, pleasurable and intrinsically motivating **(Fink, Mareva and Gibson, 2020)**. Many definitions emphasize that play is undertaken for its own sake, rather than to meet external demands or immediate rewards or needs **(Nathan and Pellegrini, 2012)**. Play is often positioned in contrast to 'work' or serious activities, but it is closely linked to learning and development in childhood and beyond. Free-play gives children opportunities to build independence and to cope with new emotions or unexpected situations **(Brussoni et al., 2015; Rao and Gibson, 2019)**, while guided play, that is, playful learning opportunities supported and scaffolded by skilled adults, can support classroom based learning **(Weisberg et al., 2016)**. Play has been associated with many different facets of learning such as language

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ability, social and emotional regulation, mathematics skills, and causal reasoning **(Whitebread et al., 2009; Buchsbaum et al., 2012; Orr and Geva, 2015; Toseeb et al., 2020)**. Taking language development as an example, it is well-established that the symbolic meaning-making involved in pretend play is closely related to the symbolic, meta-representation capacities needed for language acquisition **(Quinn, Donnelly and Kidd, 2018)**. Recent research has demonstrated that early playful experiences with parents or caregivers (e.g. singing, playing pretend) contribute directly to measures of a child's social and academic school readiness, and in middle childhood (seven-nine), competencies in social play with peers predict outcomes on standardized literacy tests. Importantly, these effects of play upon literacy outcomes are present even when effects of family economic circumstances, language ability, phonological skills and general IQ have been accounted for **(Gibson et al., 2020)**. These examples illustrate that play makes the most of the social and emotional nature of learning and it is linked with both academic achievement and socioeconomic status. Through play, learning can be a motivating, joyful and social experience. Educators do not have to choose between 'serious work' and 'play' when considering what is best for supporting student learning.

Informal play is a primary and powerful means through which to teach children and to stimulate creative thinking, yet some forms of play can also be used as a way to 'discipline' children into a particular ideal of thinking and doing later in life. Play and informal learning offer ways to know and shape the world. As play scholar Sutton-Smith observed: 'All forms of play are transformations of four basic modes by which people know the world: copying, analysis, prediction, and synthesis' **(Sutton-Smith, 1970, p. 1)**. In the case of informal learning, play is not only a transformation of knowing the world, but also of producing worlds **(Sicart, 2014, 2018)** through practices like experimenting,

...promoting healthy SEL to enable creative exploration requires creating a school culture and climate that values nurturing supportive relationships

testing and creativity in a less controlled environment. Play is thus a powerful way to informally learn about the world (epistemology) and produce and experiment with worlds and worldviews (ontology).

Play is often part of informal educational practices, especially in less strict educational settings or non-educational settings. Through free and creative practices such as sandbox play, role-playing, clay modelling, counting games, singing or mind-play (daydreaming, c.f.) **(Sutton-Smith, 2001)** diverse skills including musicality, cognitive skills, social performativity and physical boundaries (e.g. playfighting), but also an understanding of social realities and structures (e.g. gender roles/hierarchy), are developed. Yet, when we think of play as an activity for informal learning, we often associate this with children who learn through free play and associate it less with young adults. Play does not leave education at a certain age, but instead seems to become more formalized.

4.1 .3 .2

CREATIVITY

Research from sociocultural approaches to creative learning **(Burnard, Grainger and Craft, 2006; Craft et al., 2012; Glaveanu et al., 2019)** repeatedly shows that establishing healthy and secure relations with(in) one's environment has a direct impact on learning processes and, in perspective, contributes to the learner's well-being **(Burnard and Dragovic, 2014; Fenyvesi et al., 2021)**. It is this broad feeling of safety and trust that ultimately helps learners reach out to others and engage in curious, creative and playful explorations of the world **(Winnicott, 1971)**. Trust is a key prerequisite for well-being, creativity and learning **(Sousa and Lamas, 2012)** as it helps generate a climate that encourages learners – and teachers – to take risks and to value failures. Whether a child, a headteacher, a classroom teacher, a teaching assistant, part of the support staff team or a parent/carer, being a member of a community that focuses on

Creative approaches to learning engage learners emotionally through aligning learning experiences with learner's interests.

creative environments, ecologies and practices, and is building a collective means of co-authoring and sculpting new and diverse creativities, will discern more clearly new ways of nurturing learners' and teachers' well-being **(Burnard and Loughrey, 2021)**. To this end, promoting healthy SEL to enable creative exploration requires creating a school culture and climate that values nurturing supportive relationships.

Creative approaches to learning engage learners emotionally through aligning learning experiences with learner's interests **(Hickey-Moody, 2013a, 2019, 2021)**. These approaches often embed learning in larger activities, which can be informal and not appropriate for formal assessment. One of the most valuable aspects of creativity is that it runs through both arts and sciences and it is the primary way that children learn content in these discipline areas **(O'Donnell, 2015)**. Foregrounding creativity in schools can help foster SEL because the open-ended, exploratory nature of creativity mirrors the open-ended process by which students come to build meaning around their emotional feelings. Creative, divergent tasks afford students opportunities to solve real problems and arrive at new possibilities, rather than converge on 'correct answers'. This is valuable preparation for the professional and personal challenges they will face outside school, where there is rarely a correct answer.

Theory and empirical evidence within the field of the psychology of education have long connected positive mood and creativity (for a meta-analysis see **(Baas, De Dreu and Nijstad, 2008)**, while recent studies have explored a wider range of emotions, including sympathy **(Yang and Yang, 2016)**, nostalgia **(van Tilburg, Sedikides and Wildschut, 2015)** and anxiety **(Leung et al., 2014)**. In many instances, creativity implies the social and extends beyond formal educational contexts.

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4.2 Social and emotional learning throughout the lifespan

Humans are born with an innate capacity for forming social and emotional connections; indeed our very survival is dependent upon forming such connections. We are evolutionarily, biologically social, cultural creatures **(Rogoff, 2003)**. These social and emotional connections are necessary not only for basic survival, but also for learning and higher-order cognition. Learning is either facilitated or hindered by the social and emotional experiences of the learner. Therefore, an individual's emotional and social development is as important as the individual's cognitive and biological development, and the two develop in tandem. It

Humans are born with an innate capacity for forming social and emotional connections; indeed our very survival is dependent upon forming such connections

is imperative to attend to the socio-emotional dynamics of young people's neurobiological and psychosocial development and to provide experiences to support intellectual and personal learning, growth and development **(Immordino-Yang, Darling-Hammond and Krone, 2019)**. It is pivotal that education systems are able to address and contribute to this aspect of human experience **(see WG1-ch5)**. In this way, an important part of SEL involves creating a climate that is safe, supportive and engaging for youth.

As per the introduction, SEL can be broadly defined as the process of acquiring the competencies, skills and/or attitudes to recognize and manage emotions, develop caring and concern for others, establish positive relationships, make responsible decisions and handle challenging situations **(Payton et al., 2000; Greenberg et al., 2003; Weissberg et al., 2015, cited in Chatterjee and Duraiappah, 2020)**. Here, we emphasize the relevance of three sets of interrelated skills that are central for SEL: cognitive, emotional and interpersonal skills.

The cognitive component broadly refers to self-regulatory abilities and includes aspects such as being able to focus and pay attention, set goals, plan and organize, persevere and solve problems. The emotional component refers to capacities for processing emotional feelings, including recognizing and managing one's emotions, understanding the emotions of others, demonstrating empathy and coping with frustration and stress. Finally, the interpersonal component refers to social-interactive abilities and includes being able to accept the perspectives of others, navigate social situations, cooperate with others and demonstrate respect toward others. SEL involves developing self-awareness, self-regulation, social awareness, relationship skills and responsible decision-making **(CASEL, 2019)**.

This section describes the development of SEL from birth through to young adulthood and highlights the important role of assessment in bringing a disciplined focus to SEL in schools.

CHAPTER 4

4.2 .1

DEVELOPMENT OF SOCIO-EMOTIONAL SKILLS

The development of SEL across a lifespan is non-linear because it occurs in dynamic, culturally variable contexts, and involves engaging with the challenges of everyday life **(Fischer and Bidell, 2006)**. That is, young people develop skills, dispositions and understandings that are appropriate and useful for the complex web of situations and relationships they experience. In turn, these skills shape, and are shaped by, their biological dispositions. Individuals may progress and regress, build and rebuild, as they develop socio-emotional skills and dispositions in their contexts, in part because they must draw together many basic social and intellectual skills. Further, patterns of development vary across individuals, and that variability sheds light on who a person is becoming **(Fischer and Bidell, 2006)**. This section discusses a pattern of how SEL can be considered across years of development.

The development of SEL across a lifespan is non-linear because it occurs in dynamic, culturally variable contexts, and involves engaging with the challenges of everyday life.

In this section we focus on infancy, early childhood and adolescence, since these represent the periods of most substantial socio-emotional growth. However, socio-emotional skills are important and develop across the entire lifespan. Although not our focus here we note that during middle childhood, children develop a greater sense of autonomy and can develop meaningful, reciprocal friendships. Starting in adolescence and continuing into young adulthood, people refine their sense of purpose in life and determine how they will contribute to their family, community and society.

4.2 .1 .1

SEL AND BRAIN DEVELOPMENT

Not only do we grow up in a dynamic, interconnected

Socio-emotional interactions involve cognitive processes and bodily, physiological changes.

environment, but also brain development is a dynamic, non-linear process of building and rebuilding connections. From a psycho-social and neurobiological perspective, two especially important periods in socio-emotional development are the period from birth through childhood and the period of adolescence **(see also WG1-ch3)**. During these periods, the brain is maximally sensitive to social interactions in the environment **(Chatterjee and Duraiappah, 2020)**. Brain maturation and cognitive, socio-emotional development run in parallel and constantly influence each other. As such, it is vital to consider strategies that support SEL in accordance with the neurodevelopmental and learning processes in these periods.

Patterns of brain development are the result of the interaction between genetics, epigenetics (environmental effects on gene expression), environmental factors and the social and emotional experiences of the individual **(Black et al., 2017; Britto et al., 2017)**. This highlights the close relationship between the emotional and cognitive dimensions, which is so necessary for the development of self and emotional regulation **(Changeux and Dehaene, 1989; Pessoa, 2008; Robson, Allen and Howard, 2020)**. At the same time, neurodevelopmental processes and psychological skills and dispositions are influenced by interactions, relationships, the environment, opportunities and emotional experiences.

Socio-emotional interactions involve cognitive processes and bodily, physiological changes. Various socio-emotional skills and dispositions that emerge in the first two decades of life, develop alongside the maturation of the brain. Socio-emotional skills do not arise and develop in isolation, but rather establish a bidirectional relationship with other skills and change over time in response to the maturation of those skills and dispositions and the reorganization of neural circuits.

SEL FROM BIRTH THROUGH LATE CHILDHOOD

CHAPTER 4

Emerging science highlights immense brain architecture development in the first years of life and the lasting impact of both positive experiences - such as healthy, reciprocal relationships - or adverse events - such as toxic stress in early childhood – on an individual's life.

Emerging science highlights immense brain architecture development in the first years of life and the lasting impact of both positive experiences – such as healthy, reciprocal relationships – or adverse events – such as toxic stress in early childhood – on an individual's life **(National Scientific Council on the Developing Child, 2007; Fox, Levitt and Nelson, 2010; Shonkoff et al., 2012; Nelson, 2014)**. The construction of brain architecture in the first years of life is dramatic and complex because the brain gradually shapes and adapts itself so that it can learn and respond to the challenges of the environment. At this stage, the brain is highly plastic **(see WG3-ch5)**. This is why social relationships and interactions, which are affected by emotional feelings, represent an important factor in the process of brain development **(Moore, 2006; Garner et al., 2012; National Scientific Council on the Developing Child, 2012; Vela, 2014; Immordino-Yang and Knecht, 2020)**.

Although the brains of newborns are immature, they possess a set of core cognitive, social and emotional processes, allowing them to build a progressive understanding of the world, and of the mental states and emotions of people that surround them. As a child's brain continues to develop and engage with their surroundings, the different regions of the brain, such as the regions related to visual perception, movements, cognition and language, become increasingly sophisticated **(Fischer et al., 1993; Gopnik, Meltzoff and Kuhl, 2000; Kuhl, 2010; Diamond and Lee, 2011; Diamond, 2013)** as those regions provide basic inputs for the construction of socio-emotional skills. Through initial interactions with their caregivers, these connections allow the first socio-emotional skills to be built. For example, babies rapidly learn to smile in response to affectionate relationships, or cry to express discomfort or annoyance. In this sense, the experiences of the first months of life lay the foundations for a long process of socio-emotional development, thus making high-quality relationships and interactions with adults very important **(Sameroff, 1975; Howes, 1999; National Scientific Council on the Developing Child, 2004)**. As another

Although the brains of newborns are immature, they possess a set of core cognitive, social and emotional processes, allowing them to build a progressive understanding of the world, and of the mental states and emotions of people that surround them.

example, self-awareness (i.e. the ability of a child to accurately recognize their emotions and thoughts, and understand how these influence their behaviour) is constructed in interaction with cognitive, motor, social, emotional, sensory and linguistic processes. That is, a child must observe, attend to, identify and verbalize expressions of emotional feelings in order to have self-awareness. Experiences such as positive and effective emotional communication **(Tronick, 1989)**, situations that generate emotional stability **(Howes and Smith, 1995)**, a network of secure affections and attachments built between parents, educators and children **(Pianta and Steinberg, 1992; Howes, 1999)** and loving and sensitive care **(*The Lancet, 2016*)** are all critical to a child's brain development and their SEL. The role of adult affection in early childhood is essential for the child's brain development, since the affective bond allows the baby to adapt to the environment and develop autonomy and self-confidence **(see also WG3-ch5)**.

As neurodevelopment advances in early childhood, different socio-emotional competencies also advance. By three years of age, children have a significant emotional repertoire. This runs in parallel with the maturation of the neural circuits in specific areas of the brain and the communication between different networks. During early childhood, sensorimotor and language areas of the brain become more efficient and integrated, allowing children to develop language, social communication, joint attention, motor coordination, capacities for feeling, expressing and perceiving emotions, and a more complex understanding of their environment. Under the slow protracted development of frontal cortices, children learn to deal with conflicting information by starting to develop the ability to control their behaviours and thoughts (inhibitory control) and the ability to control immediate impulses and desires to achieve a goal in the future (self-control) **(Diamond, 2013)**. Children begin to combine emotional, social and cognitive skills, such as

using language to express their emotional states, ability to 'read' emotions in themselves and in other people, inferences to try to understand emotions and thoughts, thinking skills to project the behaviours of others, and inhibitory control to improve their ability to self-regulate. Research has shown that early social relationships help set the stage for later socio-emotional development, including the development of identity and self-understanding and the capacity to participate in healthy relationships **(Ainsworth, 1989; Vaughn, Bost and van IJzendoorn, 2008; Bronwell, 2016)**.

During middle-late childhood, cognitive, behavioural and socio-emotional development are driven and influenced by the maturation of associative regions of the brain involved in bringing together information from different senses. By combining and associating different types

During middle-late childhood, cognitive, behavioural and socio-emotional development are driven and influenced by the maturation of associative regions of the brain involved in bringing together information from different senses.

of information, children build a set of more abstract and formal representations about the physical, cognitive and socio-emotional world and about themselves. In addition, social, emotional and cognitive development are closely related throughout childhood. For instance, inhibitory control plays an important role in the development of socio-emotional abilities, including emotional regulation **(Carlson and Wang, 2007)**.

Respecting the evolutionary process of socio-emotional development implies the organization of specific actions for children's stages of development, as well as their contextualization based on the environment in which they are immersed. In this sense, programmes for learning and socio-emotional development gain greater weight and achieve better results when they are related to the neurodevelopmental process, since socio-emotional skills are intertwined with the skills of the other dimensions and are stimulated in a contextualized way, that is both dynamic and evolutionary.

4.2 .1 .3

SEL AND ADOLESCENCE: PSYCHOSOCIAL DEVELOPMENT

Adolescence (the developmental period from the onset of puberty to establishment in adulthood) is a critical period in which many of the factors that contribute to lifelong well-being are, or are not, acquired or solidified **(Ross et al., 2020; WG3-ch5)**. It is a period of intense biological, cognitive and psychosocial development. During the course of adolescence, people can develop stronger reasoning skills, and logical and moral thinking, as well as become more capable of abstract thinking and making rational judgements **(Crone and Dahl, 2012; Gibbons, 2019; Gotlieb, Yang and Immordino-Yang, forthcoming)**, all of which have a profound influence on their health and well-being and their learning experiences. Adolescents have improved abstract thinking capabilities **(Dumontheil, 2014; Gotlieb, Yang and Immordino-Yang, 2021, forthcoming)**. They more frequently show emotions that are more intense and volatile than

in adulthood. Additionally, these emotions differ from emotions observed in childhood **(Guyer, Silk and Nelson, 2016)**.

The biological, brain and social changes that take place during the years of adolescence make youth increasingly focused on finding their place. Having social support and having a productive network of friends, family and significant others contribute to positive development and learning experiences, especially among adolescents. Adolescents seek to belong in institutional, familial and community settings. They become more attuned to their social status, both as individuals and as members of social groups defined by factors such as gender, ethnicity, religion, socio-economic resources and sexual orientation. At the same time, adolescents increasingly want to make contributions to their social worlds in ways small and large **(Fuligni, 2019; Crone and Fuligni, 2020)**. Whether by helping friends and family or having an impact on their communities and nations, youth have a strong desire to give support, resources and input to other people and organizations in their lives. Being able to make meaningful contributions – helping friends, family and community members – predicts better psychological and physical health among youth **(Schacter and Margolin, 2018; Schreier et al., 2013; van Goethem et al., 2014)**. Many marginalized adolescents wish to use their emergent understanding of their place in the social hierarchy and experiences of discrimination to try to find ways to help their communities **(Sumner, Burrow and Hill, 2018)**. But evidence suggests notable disparities in adolescents' opportunities to make contributions to their social worlds **(Fuligni, 2020)**. Societies should take a close look at how they can provide greater opportunities to make contributions to their communities to counter the many insidious effects on adolescent development presented by social marginalization and to capitalize on these young people's many assets.

Having social support and having a productive network of friends, family and significant others contribute to positive development and learning experiences, especially among adolescents.

Development during this period depends on both

For many young people, adolescence presents rich opportunities that promote healthy development. But for others, particularly those from marginalized groups, the adolescent period presents a period of challenge and vulnerability.

individual characteristics and the environments in which adolescents live, learn, play and work **(Blum et al., 2012)**. These external influences, which differ among cultures and societies, and which can serve as risk or protective factors, include social values and norms and the changing roles, responsibilities, relationships and expectations of this period of life **(Viner et al., 2012; Patton et al., 2016)**. These changes affect adolescents in their immediate environment of family, school and community but reflect a range of wider societal changes, including increasing urbanization, globalization and access to digital media and social networks **(Moreno, Standiford and Cody, 2018)**. Age, gender, socio-economic status, ethnicity and urbanicity, among other factors, contribute to adolescents' socio-emotional experiences, and thus their learning. For example, gender norms have impacts at a structural level, reflected in inequalities and restrictions in jobs and education; at a more proximal level in terms of family decisions about allocation of resources and the relative importance of education for males and females; and at an individual level, influencing adolescents' expectations, what they feel they should or should not do, what they judge to be 'right' and 'wrong' **(Viner et al., 2012; Weber et al., 2019)**.

For many young people, adolescence presents rich opportunities that promote healthy development. But for others, particularly those from marginalized groups, the adolescent period presents a period of challenge and vulnerability. SEL initiatives need to support vulnerable adolescents in particular: those living with disabilities or chronic illnesses; those exploited and abused; those stigmatized and marginalized because of sexual orientation or ethnicity; those living in remote areas or caught up in social disruption from natural disasters or armed conflicts; those who are institutionalized; those exposed to domestic violence or substance abuse in the family; and those without access to education, health services or social protection **(Azzopardi et al., 2019)**.

On average, adolescents show greater activation in the amygdala in response to faces portraying negative emotions compared to children and adults.

4.2 .1 .4

SEL AND ADOLESCENCE: NEUROBIOLOGICAL DEVELOPMENT

In recent decades, it has become clear that the adolescent brain goes through significant changes in terms of function and structure **(Giedd et al., 1999; Mills et al., 2016)**. Current models of adolescent social brain development characterize adolescence by increasing neural sensitivity to rewards as assessed by striatum activation that increases with age and peaks around mid-adolescence, as well as heightened sensitivity to peer influences **(Steinberg, 2014; Schreuders et al., 2018)**. The limbic system involved in the emotional response to reward, and more generally in the feeling of pleasure (involving a particular neurotransmitter, dopamine), matures more quickly than the system in the prefrontal cortex that regulates the activity of the limbic system **(Casey, 2015)**. As a result, socio-emotional processing becomes intensified in adolescence, as described in the preceding section **(Blakemore, 2008; Hare et al., 2008; Steinberg, 2014)**.

Pubertal hormones (testosterone and estradiol) drive brain maturation during adolescence **(Peper and Dahl, 2013)**. Specifically, the heightened sensitivity of the subcortical brain regions is related to increasing levels of the gonadal hormones associated with the onset of puberty **(Nelson et al., 2005; Goddings et al., 2014; Wierenga et al., 2018)**. Specifically, these brain regions seem to influence social and affective processes through brain maturation at the structural and functional levels. For instance, sexual hormones modulate activity within the striatum during reward processing, within the amygdala and striatum in response to emotional stimuli, and within the anterior medial prefrontal cortex and temporal-parietal junction in social reasoning tasks. While these changes create an opportunity for young people to experience more complex emotional feelings than previously, they also create a vulnerability to emotional and mental health disorders **(Steinberg, 2014)**.

In recent decades, neuroscientific studies have identified several brain regions that are involved in social cognition, including processes related to the theory of mind, perspective-taking and mentalizing, referred to as the 'social brain network'.

On average, adolescents show greater activation in the amygdala in response to faces portraying negative emotions compared to children and adults **(Guyer et al., 2008; Hare et al., 2008)**. Emotional reactivity is also thought to reflect maturational changes in subcortical regions that are sensitive to associated pubertal hormonal changes **(Crone and Dahl, 2012; Goddings et al., 2014; Guyer, Silk and Nelson, 2016)**. This heightened emotional reactivity renders emotional and attentional regulation more difficult in adolescence **(Ahmed, Bittencourt-Hewitt and Sebastain, 2015)**. Emotional regulation in adulthood relies on top-down regulation of the amygdala by the ventromedial prefrontal cortex and this only emerges during adolescence **(Tottenham and Gabard-Durnam, 2017)**. While parents can support emotional regulation in children, this becomes more challenging during adolescence **(Tottenham, 2015)**. This can, in part, be explained because the impetus for adolescents' emotions are more abstract than the concrete causes of emotional experiences in children.

In recent decades, neuroscientific studies have identified several brain regions that are involved in social cognition, including processes related to the theory of mind, perspective-taking and mentalizing, referred to as the 'social brain network' **(Blakemore, 2008)**. These processes, along with processes of affect and self-regulation, are central to successfully navigating the social environment **(Andrews, Foulkes and Blakemore, 2020)**. Theory of mind and perspective-taking abilities develop rapidly through preschool years but follow a protracted development through late childhood and into mid-adolescence, paralleling the protracted maturation observed in the 'social brain network' **(Adolphs, 2009)**. Moreover, in order to understand the origins of schooling success and failure, as well as to promote (academic) flourishing, it is vital to understand the role that social functioning plays in shaping learning **(Blakemore, 2010)**.

Key to the success of SEL programmes is that they begin early in development, are contextualized in the environment, and are integrated with the other dimensions of development.

4.2 .1 .5

INDIVIDUAL DIFFERENCES

While research has tended to focus on studying average developmental trends, there is evidence of significant individual differences in brain development, behaviour and mental processing **(Foulkes and Blakemore, 2018; see also WG3-ch3)**. When we average across individuals, we may miss important variability that can exist at the margins. It is important to study individual differences because an average trend may not actually be descriptive of any individual being averaged given the multiple dimensions of socio-emotional skills on which people can vary **(Rose, 2016)**. Individual variability can also interact with variations in socio-emotional experiences that arise due to cultural influences **(Immordino-Yang and Gotlieb, 2017)**. For example, while cross-cultural studies have suggested there are consistent global patterns in adolescent development **(Steinberg, Icenogle and Shulman, 2018)**, there are also differences with regards to risk-taking **(Duell et al., 2018)**. Cultural differences may, in part, be due to differences in national wealth, access to education and legal age limits for driving or drinking alcohol **(WHO, 2001; Viner et al., 2012; see also WG2-ch3 and WG2-ch4)**. Another source of individual differences is socio-economic status, which has been found to associate with a wide range of brain and cognitive functions and behaviours, including in the socio-emotional domain during adolescence **(Foulkes and Blakemore, 2018)**.

4.2 .2

EXPERIENCES, ENVIRONMENTS AND SOCIAL RELATIONSHIPS SHAPE SEL

Key to the success of SEL programmes is that they begin early in development, are contextualized in the

The majority of learning takes place in a highly social context, with parents at home during early childhood and later on surrounded by peers and friends in the classroom.

environment, and are integrated with the other dimensions of development. Social, cultural, temporal and physical contexts affect the experience of SEL. One powerful force that profoundly affects SEL across contexts is family and community social and economic status. SEL develops through interactions and relations with parents and siblings, which are in turn affected by the social environment. In addition to a child's home situation, schools and communities play an important role in SEL. Therefore, they have a responsibility in developing the socio-emotional skills of youth. Below, we discuss the effect of peer relations and teacher–student interactions on SEL **(see also WG1-ch5)**. We offer these as two examples of the broader idea, in the tradition of Bronfenbrenner, that context and relationships dynamically shape SEL. Further, research from across disciplines has converged to suggest that individuals' interpretations, both conscious and unconscious, of these relationships also powerfully colours their experience and behaviour.

4.2 .2 .1

SEL AND PEER RELATIONSHIPS

The majority of learning takes place in a highly social context, with parents at home during early childhood and later on surrounded by peers and friends in the classroom. Even when not surrounded by others, learning is very social in nature in that it is organized by, and understood as, useful for navigating the rules and tools of society. Once a child attends school, the two most salient developmental tasks they face are academic achievement and formation of successful peer relationships, each of which is dependent upon cognitive and social development. Adolescents are expected to learn, succeed in school and make decisions related to their future. Moreover, adolescence is a phase of re-orientation from parents to peers: whereas children spend the majority of their time with their parents, adolescents spend increasingly more time with their peers **(Larson, 1989)** and peers emerge as significant attachment

CHAPTER 4

For many children, playful interactions with their peers during leisure time and school are self-evident.

figures **(Raja, McGee and Stanton, 1992)**. Research on reinforcement learning has shown that children imitate the choices of their peers more than those of adults **(Rodriguez Buritica et al., 2016)**, providing evidence that peers influence learning. Influence of peers on learning might be exacerbated in the context of friendships, where support and security provided by friends can have stronger effects **(Barry and Wentzel, 2006)**. For example, relationship closeness with classmates was shown to promote learning in adolescence **(Hartl et al., 2015)**. In addition, it has been shown that brain activity is modulated by peer presence in adolescence **(Chein et al., 2011; Somerville, 2013; Van Hoorn et al., 2016)** and can be diminished when students are excluded or bullied by peers. The social context of peers is likely to have strong motivational effects on learning for adolescents. Below we discuss communication impairments as an example of how difficulties in forming peer relations can negatively impact SEL. Notably, many students experience difficulty with forming peer relations, for a variety of different reasons, ranging from challenges associated with attention deficit disorders to barriers related to language or immigration status.

For many children, playful interactions with their peers during leisure time and school are self-evident. However, some children do not experience peer relations as pleasant: breaks at school are a source of stress. Almost one in ten children has a communication impairment, for example caused by hearing loss, autism spectrum disorder or a developmental language disorder. Classrooms are often noisy and playgrounds are even worse when no precautions are taken. This might cause children with hearing loss to miss out on what has been said. When the rules of a game are suddenly changed by one of the children, how would they know? Jokes are not understood, so why is everyone laughing? Children with autism spectrum disorder or developmental language disorder might become confused in such situations, which prohibits them

Empathy is an emotion that shows compassion for another person's distress and is crucial for bonding and forming meaningful relationships.

from participating fully in their peer group. In the best case scenario, they might have one friend in the class or they are accepted, yet always on the fringes, never the one to initiate a new game or take the lead. In worse case scenarios – sadly encountered often by most children with communication impairments – they are either neglected and play no role at all, or they are teased and bullied by their peers **(Maïano et al., 2016)**. So how does this social ostracism affect children's SEL?

Research examining emotional and social functioning shows deviant patterns in many aspects for children with communication impairments. Children with communication impairments often have more difficulties recognizing other people's emotional expressions, have more difficulties with understanding more socially and cognitive complex emotions such as jealousy, shame or guilt, and very often have difficulties understanding the causes of other people's emotions **(Begeer et al., 2008; Rieffe, 2012)**. This also negatively impacts their empathic responses towards others **(Rieffe et al., 2016)**. Empathy is an emotion that shows compassion for another person's distress and is crucial for bonding and forming meaningful relationships **(Hofmann, 1987)**. Feeling for another person is thought to be an innate capacity; if one baby starts to cry, others will soon follow. Yet, soon toddlers learn that this distress they experience is not their own, but the contagious reaction to another child's distress. Indeed, many studies show no differences in affective reactions in children with and without communication impairments. Yet when children grow older, feeling for another person's distress is no longer sufficient. It is also important to have 'empathic understanding', that is, to understand why the other person is upset so the child can support the upset child in a way that is indeed comforting. Unfortunately, taking another's perspective, thus also empathic understanding, is severely hampered in many children with communication impairment **(Rieffe et al., 2016)**. Therefore, it is perhaps not surprising that

Researchers are beginning to recognize the importance of teachers' own socio-emotional competence (i.e. high SEL) in implementing student SEL effectively and promoting a healthy classroom climate.

children with communication impairment have more problems socially, including difficulty in forming friendships, and report more feelings of loneliness **(Rieffe et al., 2018; Sedgewick, Hill and Pellicano, 2019; van den Bedem et al., 2018)**. In addition, these impairments have a negative impact on their mental health over time **(Li et al., 2020)**. Note however, in the studies mentioned above, children with hearing loss, for example, have no additional diagnoses or disabilities besides their hearing loss. In other words, their cognitive capacities have similar variation as in the population with intact hearing and thus cannot account for their social and emotional impairments. Language levels also do not explain these impairments **(Netten et al., 2018)**. This suggests that children with hearing loss have the same potential to develop emotionally and socially in line with their hearing peers, if they would have sufficient access to their social environment and equal opportunities for social learning. Therefore, actions for prevention of these difficulties in children with communication impairments should focus on how the environment can be adapted for the enhancement of their social inclusion.

4.2 .2 .2

SEL AND TEACHERS

Teachers are the primary force in school shaping students' SEL. Researchers are beginning to recognize the importance of teachers' own socio-emotional competence (i.e. high SEL) in implementing student SEL effectively and promoting a healthy classroom climate **(Jennings and Greenberg, 2009; Domitrovich et al., 2016)**. Teachers' socio-emotional skills are often examined within the context of their proficiency in supporting student SEL development. The more socio-emotional skills a teacher has, the more capable they are in supporting a student's SEL **(Jennings and Greenberg, 2009; Jones, Bouffard and Weissbourd, 2013)**. Further, the implementation of SEL also encourages the development of teachers' own

socio-emotional skills, improving their relationships with colleagues and students **(Martinsone and Vilcina, 2017b; Martinsone, Ferreira and Talic, 2020)**. Recently, there have been calls to better understand the factors that constitute and contribute to teachers' socio-emotional skills **(Jennings, Roberts and Jeon, 2018; Aldrup et al., 2020)**. These approaches commonly focus on negative impacts on teacher well-being and occupational health (e.g. depression, anxiety and stress) **(Jeon, Buettner and Grant, 2018)**. Less research focuses on the role of teachers' own socio-emotional competence **(Jennings et al., 2019)** and its connection to teachers' personal socio-emotional development **(Rodriguez et al., 2020)**. It is essential to consider the teacher as a learner working towards socio-emotional competence and the developmental trajectory of the teacher SEL needed to support students.

Before we explore the role of teachers' SEL in supporting student learning, we must first recognize teachers as learners in need of socio-emotional development. A growing body of literature considers the complexities of teachers' SEL **(Chen, Yin and Frenzel, 2020)**. Teachers' SEL follows the same dynamic process of cognitive development as any learner – but with one significant addition – the relationship to a student. Teachers' socio-emotional development is always in the context of the teacher–student relationship, students' learning and the teaching environment. The Five Awarenesses of Teaching **(Rodriguez et al., 2020, see Figure 1)** is a framework that helps to organize our understanding of teachers as learners. The framework can describe the nature and factors that contribute to teachers' socio-emotional competence and well-being, and ultimately their implementation of student SEL. The framework posits five teacher awarenesses (awareness of: self-as-teacher, teaching process, student, interaction and context). It asserts that the purposeful development of these cognitive skills enables teachers to intentionally and successfully

Teachers' SEL follows the same dynamic process of cognitive development as any learner – but with one significant addition – the relationship to a student.

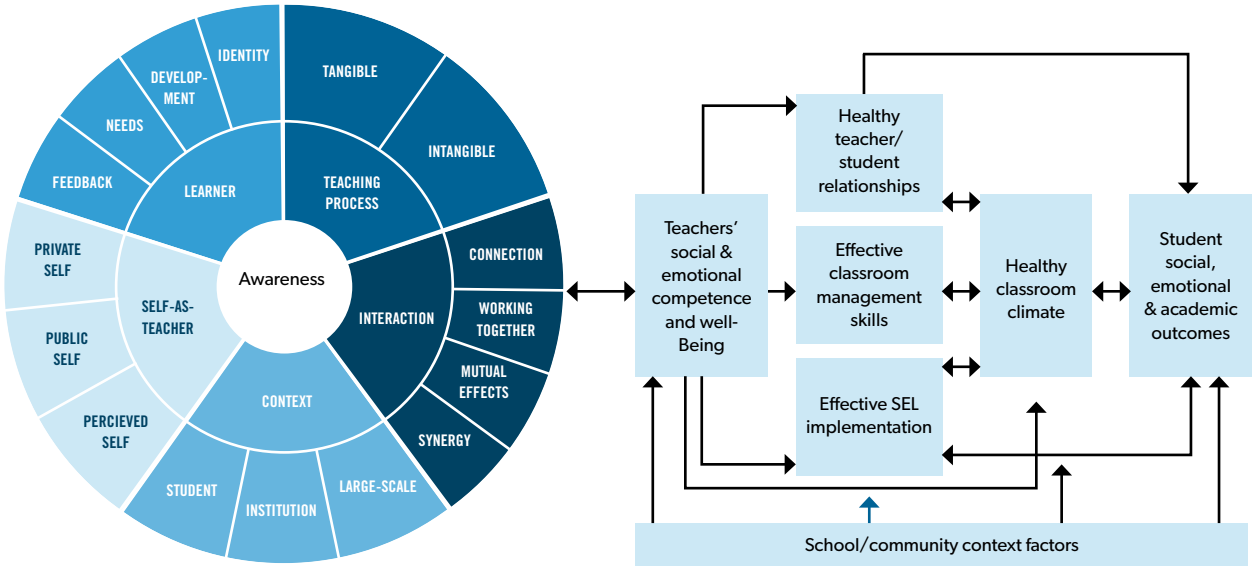


Figure 1 The Five Awarenesses of Teaching Framework. Source: Rodriguez et al. (2020)

develop and practise their socio-emotional skills. As a teacher's awarenesses grow (independently and in relation to each other) their SEL evolves accordingly. Teachers' awareness enables their ability to intentionally and successfully develop their socio-emotional skills and cognitive depth.

Why does teacher SEL matter for students' SEL? Among other things, the role of teachers is to support students' SEL. Teachers who have developed their teaching awareness recognize that their lens shapes how they view students and whether they believe students have achieved socio-emotional competence **(Rodriguez and**

The prevailing view of effectively practising SEL has been informed most heavily by a white-dominant culture that does not honour other cultural assets and funds of knowledge.

Fitzpatrick, 2014). Like scientists, teachers form hypotheses about students based on observable data. Their perceptions of those observations are grounded in their personal lived experiences. When their hypotheses are correct, it can lead to high-quality teacher–student interactions and learning. However, when hypotheses are acted upon as if they are facts, it can lead to dangerous rigidity and bias in teacher practice (e.g. in the United States (USA), some people may rely on stereotypes about black boys having more challenging behaviours, girls being better at reading and writing, boys being better in maths and science, etc.) **(Delpit, 1988; Jacoby-Senghor, Sinclair and Shelton, 2016)**. Attempting to teach students SEL without developing teacher awareness does not set up teachers to handle cultural diversity and complexity appropriately or to be prepared to fully individuate their students.

SEL is deeply rooted in socio-cultural norms **(Madda, 2019; Simmons, 2019)**. The prevailing view of effectively practising SEL has been informed most heavily by a white-dominant culture that does not honour other cultural assets and funds of knowledge **(Simmons, 2019b; Communities for Just Schools Fund, 2020)**. While this does not negate the value and importance of teaching student SEL, it does require teachers and leaders to intentionally (and in parallel) develop their socio-emotional skills to achieve personal socio-emotional competence. Such identity development allows teachers to focus and revise their hypotheses when they observe a student in need or a breakdown in the teacher–student interaction. Teaching practices are more likely to be successful when teachers can adjust their lens to understand their learners' SEL rather than teaching from an incorrect hypothesis **(Rodriguez and Mascio, 2018)**. Teachers foster the development of prosocial behaviours by modelling socio-emotional skills in their interactions with their students, their students' parents and other adults **(Jennings, Frank and Montgomery, 2020, in Chatterjee and Duraiappah, 2020)**. There is

a mounting call for deliberate practice **(Charness et al., 2005)** requiring teacher socio-emotional development through a racial equity lens that challenges deficit based models **(Aspen Institute, 2018; Love, 2019; Simmons, Brackett and Adler, 2018)**.This in-depth cognitive process directly contrasts teacher implementation of scripted interventions requiring directive behavioural techniques or student-centred best practices. The current landscape focuses heavily on developing student SEL via teacher implementation of programmes and practice. However, to support student socio-emotional skills, which are inherently grounded in socio-cultural norms, teacher SEL development towards achieving socio-emotional competence should be a prerequisite goal.

The COVID-19 pandemic offers a timely example of the intersecting roles of cultural, temporal and physical contexts affecting the development of SEL among youth.

4.2 .2 .3

CURRENT CONTEXT AND LOOKING FORWARD

The COVID-19 pandemic offers a timely example of the intersecting roles of cultural, temporal and physical contexts affecting the development of SEL among youth. Firstly, the response to this virus is a potentially profound force shaping SEL for students in 2020 and beyond, one not faced by students in previous years. Although this pandemic affects people around the world, the response differs between nations, demographic groups and individuals **(McCoy et al., 2021)**. The effect of the pandemic on SEL may be more pronounced in communities that have been less able to control the spread and thus adolescents have been separated for longer periods from the social inputs that are valuable for their development. In turn, youths' peer relationships and peer group norms have influenced their likelihood of adhering to the various measures adopted to fight the pandemic **(Andrews, Foulkes and**

One policy response to mitigate the impact of these intersecting tragedies on students has been mandating trauma informed teaching practices.

Blakemore, 2020). The recent global impact of the dual pandemics of COVID-19 and racial violence has highlighted the complex intersection between physical/mental health and structural racism. The current climate necessitates an advancement of our understanding of educators' experiences, especially those teaching children of colour in historically disinvested neighbourhoods.

Furthermore, COVID-19 has substantially altered educators' mental capacity and pedagogical practices, impacting their ability to establish healthy classroom climates and inhibiting their support of students' SEL. Mental health underpins teachers' ability to support these relationships and processes **(Hoglund, Klingle and Hosan, 2015; Greenberg, Brown and Abenavoli, 2016)**. One policy response to mitigate the impact of these intersecting tragedies on students has been mandating trauma-informed teaching practices **(NYC Division of Early Childhood Education, 2020)**. These student-centred practices are drawn from the discipline of social work **(Sanders, 2019)** and attempt to equip teachers with an understanding of approaches that can support students experiencing trauma. However, trauma-informed approaches often do not consider teachers' own experiences of trauma. COVID-19 has exposed teachers to unprecedented trauma and stress, having profound effects socially, emotionally and physiologically. These stressors, especially for teachers of colour, demand that teachers' SEL is supported as equally important and independent from student SEL **(Nagasawa and Tarrant, 2020)**. Efforts should be made to develop new culturally relevant tools for teachers to nurture their SEL in order to grow their ability to support students' SEL **(Sabic-El-Rayess, 2020)**. Directly attending to teacher SEL and identity development will better equip teachers to support their mental health and, in turn, better support students coping with trauma from a healing-centred perspective **(Ginwright, 2018)**.

Especially in these challenging

The assessment of SEL is pivotal in communicating SEL as a priority in education. In addition, SEL is contextually specific, and therefore assessment of socioemotional skills involves a broad range of interdisciplinary aspects.

times, nurturing educators' and students' flexibility, and minimizing the impact of negative socio-emotional experiences, is necessary for cultivating healthy young people. The education system is partly responsible for adolescents' socio-emotional development. Although more research is needed, a range of interventions (e.g. mindfulness and yoga, social and personal skills, family based) have been found to be successful in improving self-regulation in both children and adolescents, with improvement in academic, health and behavioural outcomes **(Pandey et al., 2018)**. As such, additional work needs to be done in incorporating more socio-emotional skill development into adolescent education and finding accessible ways to assess such skills in educational settings.

Studies confirm that intentional incorporation of SEL activities develops teachers' ability to find specific and measurable indicators of socio-emotional development of their students, thus allowing them to evaluate the implementation of SEL process and to observe their own self-efficacy. Given that sometimes teachers perceive SEL as an additional workload, it is important to understand how to assess students' socio-emotional development and schools' socio-emotional climate.

4.2 .3

ASSESSMENT OF SOCIAL AND EMOTIONAL LEARNING

The assessment of SEL is pivotal in communicating SEL as a priority in education. In addition, SEL is contextually specific, and therefore assessment of socio-emotional skills involves a broad range of interdisciplinary aspects. Although it has been made clear earlier in this chapter that learning is inherently social and emotional, it is through the assessment of socio-emotional skills that we can see their impact on learning. Drawing on evidence from

across disciplines, this section provides a description of the skills, understandings and dispositions that can be assessed to measure SEL. In addition, it highlights principles that should be followed for socio-emotional skills to be assessed in educational settings.

FROM 'COMMON SENSE' TO QUALITY ASSESSMENT

As SEL is increasingly integrated in educational systems and curricula across the world, the need for quality assessment is ever more imperative. If schools are expected to teach SEL, the necessary tools for the assessment of such competences should also be available. Although skilled and experienced educators may have a keen sense of students' socio-emotional skills, dispositions and experience, our educational system cannot continue to rely exclusively on 'common sense' or 'hunches' in assessing whether students are learning or not **(Schonert-Reichl, 2020)**. Through a deeper understanding of how socio-emotional competencies manifest in young people over time, and with the input of educators and youths **(RAND, 2018)**, we can develop an improved of SEL instructions and programmes **(see WG2-ch8** on curriculum and pedagogy for a critical take of SEL in curriculum and pedagogy).

As SEL is increasingly integrated in educational systems and curricula across the world, the need for quality assessment is ever more imperative.

Identifying and selecting a SEL framework for implementation in education is a critical first step, because a framework ideally lays out the theoretical context underpinning the suite of socio-emotional skills and dispositions that students need to be successful in school, life and work. A study conducted in 2017 identified many varied frameworks, including Positive Youth Development, Resilience, Character Education, School-Based Competency Development, Public Health, Mental Health and Mindfulness. One central finding that emerged was that '... different terms are used for competencies

that have similar definitions, and that the same terms are used for competencies that have different definitions' **(Berg et al., 2017, p. vii)**. Given this heterogeneity and inconsistencies in terminology, it is important to assess each framework on its own merits and outcomes, rather than on its theory or reputation alone.

4.2 .3 .2

KEY PRINCIPLES OF SEL ASSESSMENT

While the further development of SEL assessments is important in both education and policy contexts, we also acknowledge that socio-emotional skills and dispositions are interrelated. Many affect success in school and life beyond school, without initially being taught as such or even learned in the confines of a classroom **(Jones and Kahn, 2018)**. Crucially, the assessment of SEL needs to be underpinned by a number of key principles if it is to be meaningful, valid and useful. Firstly, it needs to be based on sound psychometric properties, making use of reliable and valid tools. Secondly, assessment needs to be culturally responsive, considering and addressing the social and cultural diversity of students. This helps to ensure transparency, fairness and equity and avoid the risks of stigmatization and reproduction of social inequalities **(Assessment Working Group, 2019)**. Thirdly, SEL assessment needs to be developmentally appropriate, reflecting the developmental changes taking place from early childhood to late adolescence with varying levels of difficulty and proficiency **(Denham, 2015)**. Fourth, SEL assessment needs to make use of strengths based tools that assess social and emotional strengths rather than social and emotional deficits **(Assessment Working Group, 2019)**. Fifth, rather than a single method or tool, multiple sources of assessment, such as teacher, self and peer assessment, and different assessment tools may need to be used depending on the task. Direct assessment is a very promising emerging tool in the assessment of SEL, but to

While the further development of SEL assessments is important in both education and policy contexts, we also acknowledge that socio-emotional skills and dispositions are interrelated.

.... there is increasing consensus suggesting an integrative assessment approach that makes use of different types of assessments that are both formative and summative.

date it is not yet practical to use for universal purposes **(Denham, 2015; McKown, 2015)**. Technology enhanced assessment of SEL is a burgeoning field, promising to make SEL assessment more feasible and accessible in teaching and learning. Sixth, self-assessment is another fundamental assessment principle particularly in SEL, encouraging a self-reflective and collaborative approach to learning, and enabling students to take more responsibility for their learning. Self and peer assessment are also more flexible in adapting to diverse learning needs and thus help to ensure equity in assessment **(Siarova, Sternadel and Mašidlauskaite, 2017)**. Finally, classroom practitioners need training and mentoring in developing, adapting and using SEL assessment tools, particularly formative ones, including guiding and supporting students in self and peer assessment **(Pepper, 2013)**. Each of these principles about high-quality, fair and informative SEL assessment aligns with principles of the ways in which we know socio-emotional skills develop and the way they are part of the learning process.

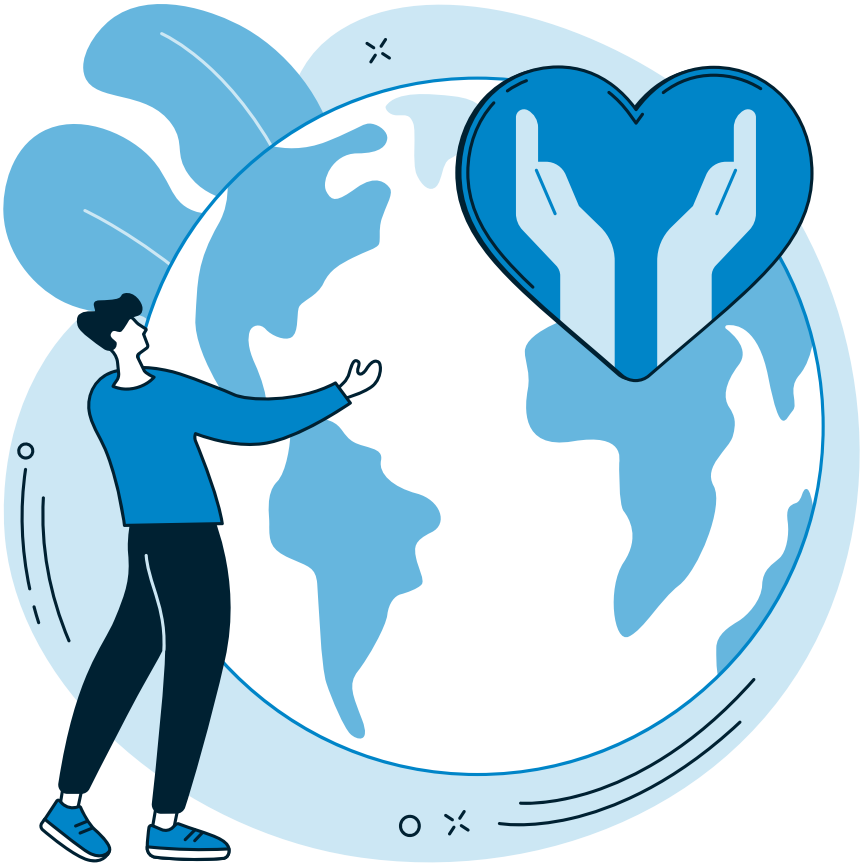
Beyond assessing students' SEL, it is critical also to take a systems level view of SEL. Overall school climate should be assessed and inform school improvement efforts. This means considering the culture around care and relationships that is fostered by all school personnel from administrators to support staff. Assessment of governing bodies' support of policies that promote SEL, and relations to student well-being and performance, can also be helpful for informing and promoting SEL in a top-down way.

In conclusion, there is increasing consensus suggesting an integrative assessment approach that makes use of different types of assessments that are both formative and summative **(Denham, 2015)**. There is no magic bullet for assessing SEL, and the choice of method depends on the purpose of the assessment **(Frydenberg, Liang and Muller, 2017)**. Similarly, there is no single method suitable to assess all socio-emotional skills/dispositions: developing

WORKING GROUP 03

4

CHAPTER



4.3 Developing and implementing SEL in education

This section draws from the preceding sections to reflect on the directions that are being taken – and may be taken – in social and emotional foundations of learning. We want to consider hopeful possibilities, while acknowledging the speculative directions that may lead us to articulate even more impressive outcomes concerning the improvement of students' socio-emotional skills. This

Indigenous cultures are continually fighting for the recognition of their identities, practices and traditions, including their right to retain their languages and resources and their ways of proposing educational practices

section discusses the implications of current research on SEL and well-being, followed by new perspectives based on indigenous, aboriginal and First Nations understanding of SEL. It then presents SEL programmes and SEL policies.

4.3 .1

SEL PRACTICES IN INDIGENOUS, ABORIGINAL AND FIRST NATIONS PERSPECTIVES

Indigenous cultures are continually fighting for the recognition of their identities, practices and traditions, including their right to retain their languages and resources and their ways of proposing educational practices. A consistent failure to understand an indigenous worldview has often been reflected in the absence of culturally appropriate forms of responsivity. Developing a more complex understanding of knowledge, including acknowledging and accepting that multiple worldviews exist and are valid, is central to cultural competence and culturally responsive practices, even though it can be difficult to cultivate this more flexible epistemological stance. Enabling teachers to attend more specifically to the discernibly different aspects of indigenous knowledge systems supports not only their development of cognitive flexibility, but also that of their responsibilities to culturally responsive practice in their curricula. Appropriate SEL environments should involve this kind of culturally responsive pedagogy, and educators should be aware of the risk that Western style SEL practice could be incompatible with indigenous ways of knowing. In doing so, they are more likely to successfully support indigenous learners in using indigenous understandings of SEL to meet the educational aspirations and goals of their tribal communities, and the goals associated with Western educational attainment.

4

CHAPTER

Understanding SEL through an aboriginal lens involves understanding the notion of belonging and its active influence in people's lives, where belonging is rooted in relationships with presences, places and people.

The examples presented here, drawn from various indigenous, aboriginal and First Nations contexts, present a limited selection aimed to explore similarities and differences identified in indigenous knowledge systems that seem most pertinent to education discussions today:

- a relational worldview in which connections and interrelations between living beings and the natural world are central to understanding the world and living in it;

- placing an emphasis on the big picture and its meaning, rather than the parts that make up the whole; a focus on acquiring knowledge through active engagement with, and direct experience of, the natural world;

- understanding 'competence' as the ability to actually put knowledge into practice in real world contexts;

- a more holistic view of human development, health and well-being; and

- transitioning these discernments to SEL approaches and applying them to education settings, such as those described in the next section. Geographic areas are considered in turn.

4.3 .1 .1

AUSTRALIA

Understanding SEL through an Aboriginal lens involves understanding the notion of belonging and its active influence in people's lives, where belonging is rooted in relationships with presences, places and people **(Rey, 2019a)**. Those relationships are underpinned by values and practices implanted through cultural Law/Lore, in particular respect for others and reciprocity. Law/Lore laid down before time, commonly called the Dreamtime, continues today as Dreaming **(Lee, 2013)**. Prior to 1788, with the invasion by the British, Dharug

clans cared for their Ngurrungras (clan areas within Ngurra), including their Presences. This involved caring for not only the physical Country, but also caring for Ancestors, through cultural practices that include transgenerational storying and what is called 'yarning,' largely defined as shared times/tellings **(Bawaka Country including Suchet-Pearson et al., 2017)**. Caring for Ngurra physically and spiritually involves collectives and coming together, whether for cool fire burning times, ceremonial times, celebratory times, or planting and harvesting the yams that were the staple dietary starch in local diets **(Pascoe, 2014)**. Caring for Ngurra thus meant social engagement and supporting communities. Strong communities are supported by strong families, and strong families raise strong individuals: strong in caring, connecting and belonging.

Young children raised with a strong sense of belonging, learn social and emotional well-being through their daily engagement with their families.

Young children raised with a strong sense of belonging, learn social and emotional well-being through their daily engagement with their families, their places of connection and their activities

(fishing with their mothers, collecting fruit and yam harvests, bringing healing and producing through plant knowledge, knowing the relationships across Ngurra between the arrival of certain animals, birds, fish, etc. with seasonal winds, rains and temperatures). When the children are older, the boys go with the men, their Elders and Uncles, to learn through initiation and other practices their roles as men, and the girls to learn 'women's business', with their Elders and Aunties.

Social, emotional, relational and well-being practices have been in place across Australia successfully for more than 65,000 years prior to 1788. However, Aboriginal social and emotional well-being has been decimated through colonization mentalities and actions that saw (and continue to see) restrictions on access to food supplies and the dispossession of Country; the denial of Aboriginal legitimacy in Aboriginals' own places; prohibitions on Aboriginal languages, ceremony and cultural practices; enacting

SEL through communal collectives does not require a top-down imposed pedagogy.

and enforcing transgenerational incarceration experiences; and narratives that consolidate and compound dysfunctionality and disconnection, rather than respecting transgenerational storying of entwining, caring, cultural pride and belonging. Imposing, through mass education systems, 'his-storying', that not only embeds European and white colonialist power and privilege systemically, also silences and denies the Aboriginal presence from place (particularly in Sydney), as has occurred in Australia for more than 230 years. This is then reinforced by a patriarchal hegemony that divides and separates peoples into hierarchies of elitism through a knowledge system that privileges written codification over other forms of knowledge sharing **(Van Toorn, 2006)**. The proselytizing of Christian doctrines that have positioned global resources ('the Garden of Eden') as rightfully there for human consumption, without the respect or reciprocity required for caring and continuity, has undermined the strength and well-being of ecologies, human and other-than-human **(Plumwood, 1993)**. Instead, human-centricity continues to divide and destroy the places of belonging, enacting mass extinctions on bio-diversities and in the process building globalizing industrial extinction complexes, which diminish and impoverish the waterways, the oceans and the sacred systems.

SEL through communal collectives does not require a top-down imposed pedagogy. Rather it requires recognition of the importance of the web of interrelatedness where human connecting, caring and belonging is grown through respect and reciprocity, walking with good spirit, within the weaving of presences, places and people, for the purpose of co-becoming and sharing times/tellings **(Rey, 2019a, 2019b)**.

4.3 .1 .2

CANADA

A cultural safety approach for indigenous students is increasingly

One of the avenues to be followed to enable social and cultural safety lies in the recognition of the traditional knowledge of indigenous women and the application of the holistic model of lifelong education of the First Nations.

implemented in Canadian post-secondary institutions, as a global social justice initiative to decolonize education **(Lévesque, 2017)**. The trauma of indigenous communities and the human rights abuses of former indigenous residential schools came into sharp focus in the summer of 2021 when hundreds of graves were found near Vancouver and Regina. In the province of Quebec, many issues related to intergenerational traumas and unfavourable living conditions still prevail today **(Loncas, 2018)**. In fact, in indigenous communities, socio-economic and socio-emotional precariousness often lead to forms of abuse with repercussions that mainly affect children and women **(Lévesque and Polèse, 2015)**. According to Colomb **(2012)**, indigenous adolescent girls are the most affected by chronic depression. In this regard, work on SEL could support their well-being and reveal its importance at the transitional stage that corresponds to college, where indigenous students, who seek to emancipate themselves from their condition, make their entry into civic life. The lifelong learning holistic model of the First Nations **(CCL, 2009)** promotes the development of capable citizens to defend the cultural and linguistic interests of their nation, equipped to effect change at personal, community and national levels **(Dufour, 2016)**.

One of the avenues to be followed to enable social and cultural safety lies in the recognition of the traditional knowledge of indigenous women and the application of the holistic model of lifelong education of the First Nations **(CCL, 2009)**. The purposes of this model tend to seek a balance between the different dimensions of the person as necessary conditions for well-being: the body, the intellect, the emotional and the spiritual.

Artistic practice is at the heart of indigenous culture and, combined with other traditional skills, forms the breeding ground for identity **(Herring, 2011)**. From crafts to music, through storytelling and ceremonial dances, indigenous children are imbued from an early age with

Traditional Maori society valued high-level thinking and analytical skills, exemplified in their clear understandings of cosmology, geography, industry and learning.

the artistic culture of their family, their community, their nation. The United Nations Declaration on the Rights of Indigenous Peoples **(2007)** places art as a means of self- determination **(UN, 2018)**. The Canada Council for the Arts valuates indigenous art: '[We] will clear a path forward to self-determination and cultural sovereignty for Indigenous peoples without compromising our support for artistic and creative expression artistic expression' **(Canada Council for the Arts, n.d., p. 2)**. Creativity is an essential and inalienable aspect of indigenous culture, as artistic practice is entangled in traditional and contemporary spiritual values **(Herring, 2011)**. Indigenous well-being assessment tools such as the 'Native Wellness Assessment™' **(Thunderbird Partnership Foundation, 2022, p.1)** reveal that the connection to culture is an important factor of well-being **(Fiedeldey-Van Dijk et al., 2017)**. The creative arts, including theatre, are anchored in the traditional customs of the First Peoples **(Côté, 2017)**.

4.3 .1 .3

AOTEAROA NEW ZEALAND

Traditional Māori society valued high-level thinking and analytical skills, exemplified in their clear understandings of cosmology, geography, industry and learning. Such skills, exemplified in various ways, were underpinned by SEL. For example, Māori practices of producing resources made from flax required a precise, socialized knowledge of the physical properties of raw materials, their source, the details regarding tikanga (customary practices) surrounding collection and processing, sustainability and so on. A second example shows that, as a result of successive generations of purposeful voyaging across the oceans, an intensive knowledge in this area was carefully acquired. Scientific endeavours were recorded and transmitted through socio-emotional approaches such as song, symbol, story, dance and everyday practices. These scientific endeavours and knowledge of Māori and other indigenous people, as well as their ways of transmitting this knowledge, are

seldom recognized as ways of knowing, and ways of teaching and learning.

4.3 .1 .4

PACIFIC ISLANDS

Generally, learning in the Pacific is communal, and children's physical, social and spiritual environment is their classroom **(Lagi and Armstrong, 2017)**. Children's interaction with their elders or most knowledgeable adults and the environment contributes to the development of their SEL knowledge, skills and or intelligence **(Lagi and Armstrong, 2017)**. Pacific children learn through practice, modelling,

observation, imitation and orally. Learning through practice, where an adult or most knowledgeable person scaffolds the child is the most effective way of learning **(Nabobo-Baba, 2006; Nabobo-Baba et al., 2012)**. Moreover, learning through practice promotes cooperative learning that encourages the development of SEL **(Lagi and Armstrong, 2017)**. For instance, when teaching a child to weave or cut toddy, the most knowledgeable adult will interact with the child through speaking and modelling how to weave or cut toddy. In the process of talking and teaching, the child learns to listen and be attentive, to respect, negotiate and cooperate with the adult **(Lagi and Armstrong, 2017)**. Furthermore, the child develops their language and thinking skills. The indigenous people of the Pacific's pedagogies are aligned to Bronfenbrenner's ecological theory, Vygotsky's socio-cultural theory, Gardner's multiple intelligence theory, Thorndike's social intelligence theory and Goleman's emotional intelligence theory **(Lagi and Armstrong, 2017)**. In the Pacific, teachers have tried to use the same traditional pedagogies in schools. However, there are issues that prevent the effective use of these approaches.

In an indigenous school environment, working on building a positive and caring classroom climate may be a lever for students' well-being and academic success.

4.3 .1 .5

SEL PROGRAMMES IN INDIGENOUS CONTEXTS

In indigenous school environments, working on building a positive and caring classroom climate may be a lever for students' well-being and academic success. Indigenous children often grow up in conditions of emotional precariousness, which requires a particular sensitivity and sustained attention from teachers **(Maheux et al., 2020)**. School perseverance implies establishing a safe learning environment for children. Working on SEL contributes to creating these conditions conducive to learning and global well-being, which are at the heart of indigenous ways of learning. Integrating SEL into the daily classroom routine has an impact on the overall development of

Indigenous children often grow up in conditions of emotional precariousness, which requires a particular sensitivity and sustained attention from teachers.

the child, supporting a holistic approach to education **(Blanchet, 2019)**. The values of empathy and respect promoted by SEL also correspond to the precepts of peace education rooted in the intangible cultural heritage of First Peoples **(UNESCO, 2014)**.

Given the traumas generated by colonization, the cultural and human genocide suffered by indigenous peoples, and the still precarious living conditions they experience **(Maheux et al., 2020)**, it is important to focus on developing programmes that sustain well-being for new generations. For example, since the contribution of SEL had been little explored in the context of indigenous education, a Literacy of Emotions and Needs Educational Tool Program was developed in indigenous schools for the 11th First Nations of Quebec, Canada project **(Blanchet, 2019)**. This project pursued the objective of aligning research advances in SEL with indigenous school realities, in accordance with the holistic model of lifelong learning of the First Nations **(CCL, 2009)**. In an attempt to reach the educational settings of the different learners' profiles in the various indigenous nations and to enhance their respective first languages, the emotion poster that forms part of the programme has been translated into the eleven indigenous languages spoken in the ancestral territory that represents Quebec. To this end, experts and elders members of various communities were consulted. After its launch at the Perseverance and Academic Achievement for First People Students Symposium in October 2017, various copies of the tool were delivered to the council of each nation in order for them to share it with their schools and raise awareness about the importance of making this learning a priority. It has also been made freely available on the internet and in workshops to enable communities to take ownership of the tool in their specific context.

By introducing a regular SEL-related educational practice in indigenous community schools, this tool might contribute to the development of an indigenous

SEL pedagogy. Indeed, students evolving in a school environment that resembles them, that is sensitive to their needs, and where they can express themselves with confidence, will remain more persistent and have a better chance of success **(Shanker, 2014)**. While delivering literacy of emotions and needs, this educational tool is contributing to the well-being of more indigenous students.

To fully grasp the essence of holistic learning, it is important to understand that indigenous peoples comprise hundreds of diverse communities, in terms of culture, language, governance and rights granted under treaties **(CCL, 2009)**. The purpose of holistic learning tends to seek a balance between the different dimensions of the being, the body, the intellect, the emotional and the spiritual, as necessary conditions for wellness **(Colomb, 2012)**.

To fully grasp the essence of holistic learning, it is important to understand that indigenous peoples comprise hundreds of diverse communities, in terms of culture, language, governance and rights granted under treaties.

More generally, various publications reflect the potential of art education for the development of SEL among marginalized populations to promote the democratization of knowledge, the recognition of diversity and the transmission of intangible cultural heritage. Beyond allowing the learner to create their own artistic language, it contributes to their emancipation, both emotionally and socially. Dupont's **(2015)** research highlights the impact of arts education practices on the overall training of the learner, perceived as a creator citizen. McManus and Jensen **(2020)** show that art education practice promotes the acquisition and retention of healthy socio-relational habits related to self-awareness and social awareness. Moore and Moore's **(2020)** explore the power of living art to develop self-awareness through the voice of values and worldview and to increase social awareness through the development of a sense of belonging. These authors maintain that an art based approach, where practice developing SEL promotes the recognition, validation and regulation of emotions, creates a safe space for participants to reveal their history, increase sense of justice, cultivate listening skills, affirm strengths and recognize

Anchored in work on emotion and relationship, social theatre practices have holistic potential in their adoption of a humanistic and global approach, with a view to transformation and emancipation both personal and social.

weaknesses. Similarly, Hatala and Bird-Naytohow **(2020)** explore the relationships between the performing arts, wellness and resilience of indigenous teenagers. Anchored in work on emotion and relationship, social theatre practices have holistic potential in their adoption of a humanistic and global approach, with a view to transformation and emancipation both personal and social **(Nascimento da Luz, 2016)**.

4.3 .2

PROGRAMMES

It is imperative to design interventions and intentionally foster school programmes that are grounded in the principles of SEL and can recognize and tackle inequities in education and society. Such principles promote the creation of safe, participative spaces in which power differentials can be challenged and replaced by an active co-construction of knowledge **(Sierra and Fallon, 2016)**. Interventions designed by both researchers and educators have to take into account both the benefits and costs associated with working with what is, for most, a highly personal area of their existence (e.g. close human relationships). At the same time, the social, economic and cultural changes of today – from the COVID-19 pandemic to accelerated polarization within societies worldwide – make interventions that strengthen effective learning, social bonds, positive emotions and mental health an undeniable necessity on a global scale.

The focus of this section is to describe the programme benefits and costs of SEL interventions to individual learners, and their effectiveness in tackling inequalities in education, especially in light of emerging social, economic and cultural changes.

It is now well understood that universal SEL interventions from kindergarten to high school lead to improvements in students' socio-emotional skills, attitudes, behaviour and

Many SEL interventions are grounded in research from developmental cognitive neuroscience that indicates that socio-emotional skills can be taught across a person's life span and are viewed as more malleable than IQ

academic performance **(Elias et al., 2003; Greenberg et al., 2003; Zins and Elias, 2007)**. Meta-analyses of SEL interventions from Pre-K **(Murano, Sawyer and Lipnevich, 2020)** through secondary school **(Taylor et al., 2017)** report significant positive outcomes of both universal **(Greenberg and Abenavoli, 2017)** and targeted interventions **(Murano et al., 2020)** in various forms, including whole-school approaches **(Hoffmann et al., 2020)** and for selective components of school experience **(Carroll et al., 2020)**. Such approaches to SEL take a staged or fabricated approach to SEL by creating learning situations that focus on SEL alone, when in fact all learning has social and emotional aspects. Many SEL interventions are grounded in research from developmental cognitive neuroscience **(e.g. Diamond, 2012)** that indicates that socio-emotional skills can be taught across a person's life span and are viewed as more malleable than IQ **(see section 4.2.1 on SEL development)**.

Previous evaluations emphasize several aspects of well-implemented SEL programmes, such as fidelity, dosage, quality, responsiveness and adaptation **(Dane and Schneider, 1998; Durlak and DuPre, 2008; Feely et al., 2018)**. Fidelity or adherence corresponds to the extent to which an intervention is implemented as originally intended. It includes both content (what exactly has been done) and procedures (how the programme was implemented). In this aspect, it is crucial to provide teachers with specific training and external support to promote their understanding of SEL principles and increase their willingness to engage in maintaining the programme **(Martinsone and Vilcina, 2017a)**. The need to develop teachers' self-reflection and understanding of their own role in successful SEL is underlined by Martinsone and Damberga **(2017)**, who find that teachers reflect on their experience after the implementation of the SEL programme by focusing on their students' performance, rather than through addressing their personal socio-emotional skills and dispositions. Moreover, they identify a positive outcome in

terms of teachers' understanding of their roles when work during the implementation of SEL is monitored and regular support provided **(Martinsone, Ferreira and Talic, 2020)**.

Among the most effective approaches to SEL are whole-school programmes **(Greenberg et al., 2003; Baroody et al., 2014; Dusenbury et al., 2015)**, including not only direct teaching of socio-emotional skills in special lessons but also implementing SEL programmes outside of classrooms **(Oberle et al., 2016)** and fostering a relational school climate. The indirect SEL can be implemented through everyday teaching strategies and formative assessment **(Ferreira, Martinsone and Talic, 2020)**. One such programme was developed and tested in six countries in Europe **(learningtobe.net)**. In this particular approach, the standards of SEL and formative assessment strategies were integrated in one matrix, thus introducing teaching strategies specific to each aim of developing SES.

The promotion of a general understanding that SEL programmes are not only about students, but also invest in teachers' well-being, can contribute to effective SEL.

The promotion of a general understanding that SEL programmes are not only about students, but also invest in teachers' well-being, can contribute to effective SEL. Both direct and indirect SEL require teachers to serve as role models, sustain their own motivation to implement SEL programmes in all school settings, collaborate with colleagues and parents, and become involved in continuous education **(Jones and Bouffard, 2012)**. Such aspects as teacher's awareness of the importance of building relationships, school-wide support for positive behaviour and recognizing reflection as a part of learning are considered as key factors for successfully implementing SEL and creating a positive school climate **(e.g. Williford and Wolcott, 2015)**. Conversely, the implementation of SEL also encourages the development of teachers' own SES and improving their relationships with colleagues and students. Sometimes teachers perceive SEL as an additional workload; therefore, studies confirm that intentional incorporation of SEL activities

SEL practices have been shown to help enhance self-regulation and awareness, as well as positive attitudes, and social orientations like empathy, foster cooperation, and reduce disruptive behaviours.

develops teachers' ability to find specific and measurable indicators of socio-emotional development of their students, thus allowing the teachers to evaluate the implementation of SEL process and to observe their own self-efficacy **(Martinsone and Vilcina, 2017b; Martinsone, Ferreira and Talic, 2020)**. Self-reflection could lead to a better understanding of teachers' role, namely that teachers are a part of SEL rather than external experts evaluating their students' performance **(as discussed above in section 4.2.2)**.

In more specialized contexts, such as designated school curriculum areas, SEL interventions have been successful at all educational levels in urban, suburban and rural schools **(Durlak et al., 2011)**, suggesting that many contexts would benefit from providing schools with such programmes **(Diekstra, 2008)**. SEL practices have been shown to help enhance self-regulation and awareness, as well as positive attitudes, and social orientations like empathy, foster cooperation, and reduce disruptive behaviours **(Murano et al., 2020; Burnard et al., 2020)**. Focusing on the conditions conducive to well-being, several studies have led to the development of programmes to prevent problematic behaviours **(Greenberg et al., 2017; Taylor et al., 2017)**. SEL is implicated in academic and professional success, meaningful relationships, and enhanced well-being up to eighteen years post-intervention **(Taylor et al., 2017)**. Several mental health-related school programmes have been implemented, namely, life skills, personal and social skills, socio-emotional skills, prevention and SEL programmes. These programmes are differentiated in name, goals, theoretical background and duration. Despite their differences, they produced impressive outcomes concerning the improvement of students' socio-emotional skills, as indicated by international organizations such as UNESCO and WHO.

SEL is implicated in academic and professional success, meaningful relationships, and enhanced well-being up to eighteen years post-intervention.

4.3 .3

RETHINKING RESEARCH AS PRACTICE - TWO EXEMPLAR INTERVENTIONS FROM TAIWAN

This section offers two intervention cases from the Ministry of Education's Digital Learning Sprout Project in Taiwan. Examples of educational practices can contribute to the improvement of learners' high order thinking skills and lead to emerging social and cultural changes.

4.3 .3 .1

FIRST INTERVENTION, A PRIMARY SCHOOL: LIGHTING UP THE OLD TRAIN STATION (LUOTS)

The Lighting Up the Old Train Station project emerged from the sad news that the Tainan City Government decided to build a new train station, and the old station that ran for more than seventy years would be abandoned. A local primary school launched a school based curriculum, enabling teachers and children to work together collaboratively to save the community's collective memory. The project aimed to empower the pupils, transforming their creativity by lighting up the abandoned train station and encouraging them to make creative use of the idle space. Project based learning (PBL) and design thinking (DT) approaches were utilized throughout the project. The project also meets one of the United Nations' Sustainable Development Goals (SDGs) – 'Affordable and Clean Energy'. After lengthy negotiation with the Cultural Affairs Bureau, the City Government agreed to let the students light up and decorate the old train station based on the students' creative LUOTS designs.

The pupils completed the LUOTS project through five steps of DT.

CHAPTER 4

Picture 1. One of the LUOTS models made by a group of fifth graders.

1. Empathy: pupils are guided to conduct a field study in the local community and explore residents' needs.

2. Define: pupils are encouraged to identify what problems need to be solved to transform the old idle station into a beautiful recreation centre.

3. Ideate: pupils are encouraged to develop creative ideas by using brainstorming, forced relationships and six hats.

4. Prototype: pupils are transformed into 'makers', using 3D printing and laser engraving techniques to build scale models of the station and use Micro:bit and Arduino development boards to design the lighting of the station and come up with innovative electricity-generation ideas from the perspective of using renewable energy and changing residents' behaviours **(Picture 3.1 is an example)**; students calculate how many led light bulbs can be electrified and

figure out how to decorate the station using a limited amount of light bulbs; they are asked to do space planning, such as making a gallery/library of old station memories, a café, a playground and a souvenir shop.

5. Test: pupils go into the community and introduce the LUOTS project by showcasing their models and letting residents evaluate the appropriateness of their creative design.

4.3 .3 .2

SECOND INTERVENTION, A SECONDARY SCHOOL: KEEP BACK STRAIGHT (KBS)

The Keep Back Straight (KBS) project emerged from an idea that all students need to learn at school for almost ten hours every day (generally from 7.30 to 17.00) and spend most of their time sitting inside the classroom. Meeting one of the SDGs – 'Good Health and Well-Being', the KBS guides students to maintain a healthy lifestyle through exercise and adopting a correct sitting posture. Using ICT and new technologies to improve students' physical and mental health, the school has completed a series of learning modules in recent years, including how to maintain a healthy diet, using wearable devices to monitor sleep quality, and engaging students in the use of a self-developed electronic 3D skipping rope to fight obesity and improve health. Similar to the previous case, PBL and DT approaches have been utilized throughout the four-year project to develop ways of helping the students sit with the correct posture.

The PBL KBS project enables pupils to work in small groups, in which they go through five steps.

1. Empathy: pupils are guided to conduct a field study, scrutinizing their own, and fellow students' and family members' incorrect sitting postures and behaviours.

2. Define: students identify two problems, including the

Picture 2. Three eighth graders wear Micro:bit enhanced devices to monitor sitting postures.

development of wearable devices to monitor sitting postures and then help maintain correct sitting postures.

3. Ideate: pupils are encouraged to develop creative ideas by using brainstorming, forced relationships, six hats and WebQuest.

4. Prototype: the 'makers' work in small groups, using Micro:bit and other technological devices, to develop wearable devices **(Picture 3.2 is an example)**. The students are asked to come up with creative ideas to monitor their sitting postures correctly. Students learn the essential knowledge and skills in information technology, including programming, coding and computational thinking skills; health and physical education,

Young people's well-being is crucial for success in school, given its link with motivation to achieve academically.

including sport, exercise, and health; integrative activities, including sewing techniques and the making of wearable devices; science and technology, including data analysis techniques and fine-tuning the products; arts and humanities, including how to better the aesthetics and ergonomics of the devices; language arts course, including how to promote products by using Microsoft PowerPoint and verbal and non-verbal communication skills.

5. Test: let fellow students, teachers and family members evaluate the appropriateness oftheir creative wearable devices. Furthermore, the school collaborates with the village chief and residents to make a health campaign, which expands the positive impact of the students' designs/inventions on the community and society.

In dealing with the problems encountered in real-world scenarios, using PBL and technology through interdisciplinary learning has been prioritized in the Taiwanese 'Digital Learning Sprout Project'. A quasi-experimental design and mixed methods research approach have been utilized to identify both cases and effectiveness. Profound quantitative and qualitative evidence reveals that both of the above cases have positively impacted students' intrinsic learning motivation and 'five-c' abilities, including creativity, critical thinking, communication, collaboration and complex problem-solving. Furthermore, while the primary school case has improved students' empathy, the secondary school case has significantly improved pupils' computational thinking.

4.3 .3 .3

SEL PROGRAMMES AND WELL-BEING

Young people's well-being is crucial for success in school, given its link with motivation to achieve academically **(Wormington and Linnenbrink-Garcia, 2017)**, behavioural engagement with

learning including aspects such as (lack of) truancy **(The Children's Society, 2018)** and academic achievement itself **(Gutman and Vorhaus, 2012)**. It is therefore not surprising that policy initiatives have been introduced to promote young people's well-being. England, for instance, introduced the Social and Emotional Aspects of Learning (SEAL) programme as long ago as 2005 **(DfES, 2005)**, as a result of the Green Paper *Every Child Matters* **(DfES, 2003)** on the premise that socio-emotional skills underpin effective learning, learning behaviours and, of particular interest here, well-being.

Although it is laudable that interest has focused on well-being, it is essential to review and take stock of where we are now to consider how best to move forward to realize the potential of SEL interventions to promote well-being.

Although it is laudable that interest has focused on well-being, it is essential to review and take stock of where we are now to consider how best to move forward to realize the potential of SEL interventions to promote well-being. As SEAL was widely taken up by schools in England, with an estimated 90 per cent of primary schools and 70 per cent of secondary schools utilizing the programme before it was officially discontinued and the materials reportedly still being widely used **(Humphrey, Lendrum and Wigelsworth, 2013)**, it is worth focusing specifically on this programme. It is instructive to ask whether SEAL has been successful in promoting young people's well-being. The answer is that, despite the programme's popularity, the evidence is far from compelling. A government-commissioned evaluation of SEAL in secondary schools revealed that it had failed to impact socio-emotional skills, general mental health difficulties, pro-social behaviour or behaviour problems **(Humphrey, Lendrum and Wigelsworth, 2010)**. Evaluation of SEAL in primary schools was more promising, with one study indicating that teachers believe the programme has had an impact despite mixed findings in relation to children's self-reported emotions, self-esteem, social skills, and attitudes towards school and academic work **(Hallam, 2009)**, and another demonstrating a significant but small impact of small group intervention work across a range of socio-emotional skills **(Humphrey et al., 2008)**. It seems that SEAL may not have

There is consensus that subjective well-being is 'a broad category of phenomena that includes people's emotional responses, domain satisfactions and global judgments of life satisfaction'.

fully delivered on its promise to promote well-being. However, the extent of its impact requires further scrutiny.

Firstly, it is necessary to consider what is actually meant by well-being. The original SEAL documentation refers to emotional well-being without defining this clearly. Although a range of disciplines from economics to development studies have problematized well-being, arguably the greatest concentration of work has been within the realms of psychology and psychiatry, linking mental health and well-being through the WHO's long-standing definition of health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' **(WHO, 1948, p.1)**. While referring to mental and social well-being, this in itself does not expand on well-being; psychologists have made the case that what is important is how individuals experience and perceive their well-being, that is, subjective well-being, rather than objective indicators such as material circumstances given that the same circumstances are experienced, interpreted and acted upon differently by different people **(Seligman and Csikszentmihalyi, 2000)**. There is consensus that subjective well-being is 'a broad category of phenomena that includes people's emotional responses, domain satisfactions and global judgments of life satisfaction' **(Diener et al., 1999, p. 277)**. It would appear therefore that SEAL was premised on fostering subjective well-being. However, based on Ancient Greek philosophy, psychologists recognize that feeling well, or hedonic well-being encapsulated by subjective well-being, is only part of well-being; another important facet is functioning well or eudaimonic well-being **(Waterman, 1993)**. Although the notion of eudaimonic well-being has gained traction **(Deci and Ryan, 2008b)**, there is little consensus on how best to conceptualize this, with a number of theoretical approaches put forward, including Ryff's six-facet model of psychological well-being **(Ryff, 2014)** and the core three needs fulfilment model within the self-

There is growing evidence from comparative studies that well-being is not understood in the same way in different contexts, as measures do not demonstrate measurement invariance across contexts.

determination framework **(Deci and Ryan, 2008a)**. Thus, in order to evaluate whether SEAL has been successful in promoting well-being, it is important to evaluate the programme against a more comprehensive model of well-being than appears to have been the case in the evaluations noted earlier, including both hedonic and eudaimonic aspects. While there has been some consideration of impact on mental health difficulties and self-reported emotion, which is to be welcomed, evaluation thus far clearly does not encompass the complexity of well-being.

But even if a more complex model of well-being had been considered in SEAL evaluations, a further issue is how best to measure well-being. There is growing evidence from comparative studies that well-being is not understood in the same way in different contexts, as measures do not demonstrate measurement invariance across contexts (i.e. they are not measuring the same thing in the same way). Measures of subjective well-being, in particular life satisfaction, are widely used, with the seven-item Student's Life Satisfaction Scale **(Huebner, 1991)** being most frequently cited for assessing young people's life satisfaction. Yet, a recent large-scale international well-being study of over 16,000 young people in eleven countries concluded that while there was configural invariance (basic structural equivalence) in how life satisfaction was perceived in nine of these countries based on five of the seven items, and notably the United Kingdom (UK) was one of the two countries to which this did not apply, there was still not metric or scalar invariance in how the scale was being interpreted, making it invalid to directly compare mean scores across countries **(Casas and Rees, 2015)**. Such large-scale studies have yet to include less well-established eudaimonic well-being measures but studies testing the structure of models developed typically in WEIRD (Western, educated, industrialized, rich and democratic) contexts **(Henrich, Heine and Norenzayan, 2010)** in non-WEIRD contexts are also

insightful as a poor model fit raises questions about the nature of well-being in the context in question, as was the case when Ryff's model of psychological well-being was tested in China **(Gao and McLellan, 2018)**. While this discussion has focused on international comparisons, similar issues arise when considering different groups of young people even within one national context. There has been, for instance, some consideration of measurement

Although a range of assessment tools are available, these too need problematization given the accumulating evidence that well-being is not understood in the same way in different contexts, not only in different international contexts but also by different groups in society.

equivalence across gender, with the large-scale international study referred to above revealing some inconsistencies in item performance between girls and boys in some cultural contexts **(Casas and Rees, 2015)**. No similar work has been conducted focusing on potentially disadvantaged groups, although a Chinese study examining measurement invariance of the Children's Hope Scale, which while different from well-being is conceptually related, across different socio-economic status groups revealed the construct was not viewed in the same way by all groups **(Lei et al., 2019)**. Thus, it is imperative to problematize the context when framing well-being **(La Placa, McNaught and Knight, 2013)** and avoid imposing a model and assessment that may not be appropriate.

So, what can we conclude about how programmes are inscribed in local-level politics and policy? At first sight the implementation of SEL programmes, like SEAL and SEL, seems a positive step in fostering well-being, given its evident importance. However, the evaluation of such programmes from a well-being perspective is problematic when well-being itself is such a complex and contested construct. Although a range of assessment tools is available, these too need problematization given the accumulating evidence that well-being is not understood in the same way in different contexts, not only in different international contexts but also by different groups in society. It is particularly important that marginalized group's experience and perceptions are not overlooked by the dominant well-being discourse. Although this section has focused on well-being measurement issues, it is equally the case that the programmes themselves should not marginalize groups with a hegemonic view of SEL. Increasingly, critics argue this too may be the case **(Wood, 2018)**. This is an important debate that needs to be continued if young people are to experience well-being and flourish.

More broadly, there has been growing concern from policymakers and practitioners about children and young people's mental health and its impact on learning, acknowledging that well-being is fundamental to flourishing.

4.3 .4

NATIONAL SEL POLICY: A FOCUS ON THE UK

Recently there has been a renewed political focus on why some children and young people do not reach the standards expected and the causes of that failure. Since the importance and positive outcomes of SEL have been recognized worldwide, it poses questions for decision-makers about which programmes or approaches to implement in their schools. Current research **(Feely et al., 2018)** suggests that adaptation of programmes should not be considered a failure to achieve fidelity. A culture-specific programme adaptation could lead to forming the best practices crucial for the sustainability of the programme both on a national and international level **(Forman et al., 2009)**. Furthermore, national SEL programmes should be updated because of the dynamic and changing environment. For instance, the original Latvian SEL programme **(Martinsone, 2016)** has recently been updated and edited to support the implementation of the new competence-based national education curriculum.

More broadly, there has been growing concern from policy-makers and practitioners about children and young people's mental health and its impact on learning, acknowledging that well-being is fundamental to flourishing. Issues including social media, social and environmental issues such as climate and equality, nutrition, and parenting practices have been recognized as affecting mental health. There has been increasing concern about the impact of abuse and exploitation of children and young people leading to an increased emphasis on the importance of safeguarding and ensuring that the voice of children and young people informs policy and practice.

Lavis and Robson **(2015, p. 5)** suggest that in an average class of thirty fifteen year olds:

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Teachers need to feel confident to support students facing these social and emotional pressures to enable them to engage with learning.

- 'three could have a mental health disorder;

- ten are likely to have witnessed their parents separate;

- one could have experienced the death of a parent;

- seven are likely to have been bullied;

- six may be self-harming'.

Inevitably, therefore, many of these young people have had multiple negative experiences. While individual factors may fall below the threshold for external support cumulatively, they can have a significant impact on relationships, behaviour and learning. Teachers need to feel confident to support students facing these social and emotional pressures to enable them to engage with learning. Between 2016 and 2018, UK suicide rates for ten- to nineteen-year-olds increased by almost 30 per cent, rising from 204 to 263 deaths (Samaritans, 2019). The ways in which these issues have emerged in policy are varied but the language used in Every Child Matters (DfES, 2003), Getting it Right For Every Child (Scottish Government, 2006) and No Child Left Behind (NCLB, 2001) recognizes that what matters for children to learn and succeed is not a product of cognition alone and that socio-emotional development and well-being are crucial.

The Every Child Matters policy in England was the Labour Government's response to several tragic child abuse deaths. It introduced five indicators including 'enjoying and achieving', established a commitment to education, health, care and other services working together for children, and encouraged a whole child approach. This policy commitment was sustained throughout the 2000s, leading to substantial changes in practice, including schools providing well-being support such as breakfast clubs and access to wider services. While the legislation remains in place, the 2010 election

That greater law enforcement on its own will not reduce serious violence is recognized, as is the need that we must continue to focus on early intervention and prevention.

of a coalition government removed the central support for implementation and many schools reduced or stopped some of their wider service provision and put a greater emphasis on behaviour and standards. However, the commitment to multi-agency working continues to be a central part of government policies supporting well-being and SEL and is reflected across government departments. In England, Wales and Scotland policy-makers introduced and funded Violence Reduction Units (VRUs) taking a public health approach to tackling violence, developing collaboration across government departments and across services, including schools, in local areas to address the underlying causes of violence and take a preventative and early intervention approach.

VRUs will bring together police, local government, health and education professionals, community leaders and other key partners to ensure a multi-agency response to the identification of local drivers of serious violence and agreement to take necessary action to tackle these. This includes being responsible for driving local strategy and embedding cultural change alongside their commissioning role as a means to make the VRU sustainable. We recognise that greater law enforcement on its own will not reduce serious violence and that we must continue to focus on early intervention and prevention. The introduction of VRUs across England and Wales represents a substantial and exciting system change in the field of violence (Home Office, 2020).

In Scotland, the Getting it Right for Every Child policy places well-being at the core of the policy and, unlike the initiatives in some other countries, which have been modified or even replaced as governments change, has been a consistent and sustained policy focus for nearly twenty years. The opening statement in the leaflet 'Understanding well-being' **(2018)** sets out that commitment in terms of the way that support is provided and its intended impact. Well-being sits at the heart of the

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Getting it Right for Every Child approach and reflects the need to tailor the support and help that children, young people and their parents are offered to support their well-being. A child or young person's well-being is influenced by everything around them and the different experiences and needs they have at different times in their lives **(Scottish Government, 2016).**

A whole school commitment and ethos, rather than piecemeal approaches, are key to improving well-being and standards - which can also reduce exclusions, re-engage students who have experienced problems, build good relationships, and attract and retain staff.

The Scottish policy's emphasis on relationships embodies the social and emotional aspects of learning and the way teachers are focused on how to resolve problems. In England, an emphasis on behaviour and the adoption in some secondary schools of zero tolerance behaviour policies has led to exclusions as incidents mount up and the child is seen as the problem. English and Scottish numbers of exclusions are markedly different with Scotland excluding only a handful of children each year, whereas England excludes several thousand annually **(McCluskey et al., 2019)**.

The 2010s saw an increasing public and policy concern about children and young people's mental health as England continued to perform badly in international measures of happiness and well-being. The policy debate often became polarized with well-being placed as an alternative to attainment and the English Government continued its emphasis on standards through the annual publication of school performance data. However, across the UK policy-makers identified the importance of adopting a whole school approach to mental health and well-being. In 2014 **(updated in 2018)**, the Department for Education (DfE) published guidance on *Mental Health and Behaviour in Schools*, promoting a whole school culture fostering positive mental health and concluding that, in order to help their pupils succeed, schools have a role to play in supporting resilience and mental health **(DfE, 2018)**.

A whole school commitment and ethos, rather than piecemeal approaches, are key to improving well-being and standards – which can also reduce exclusions, re-engage students who have experienced problems, build good relationships, and attract and retain staff **(Gutman and Vorhaus, 2012; Brooks, 2014)**. Guided by the social and affective sciences, a series of policy commitments on mental health led in 2017 to a joint Green Paper from the Departments of Health and Education setting out a systematic, long-term approach

to mental health in schools and a review commissioned by the DfE of current practice, which was published the following year **(Brown, 2018)**.

Alongside well-being, policy-makers and practitioners have explored the development of resilience and character as a means of improving outcomes **(NatCen, 2017)**. In 2019, Ofsted revised its inspection framework to reduce the focus on data and introduce a 'personal development' judgement of how schools develop learners' character, resilience and values and what advice and support they offer learners to help them succeed in life **(Ofsted, 2019)**.

In 2020 governments internationally were keen to ensure that children and young people returned to education following extended school closures due to COVID-19. Despite many schools relying on online learning provisions, governments were insistent on a return to face-to-face learning. While economic reasons will have been important, there is, perhaps

Despite many schools relying on online learning provisions, governments were insistent on a return to face-to-face learning.

unacknowledged, an awareness of the social and emotional basis of learning through interaction between pupils and with teachers and other adults. Fundamental to a successful return is the well-being of all children and young people. The Excluded Lives research project **(Daniels et al., 2020)** at Oxford University identified various scenarios experienced by children and young people that could impact on their re-engagement with school and were likely to increase the risk of them being excluded formally, informally or through self-exclusion. They proposed that to address these risks policy-makers needed an upstream approach with a nuanced understanding of vulnerability being about context and not just individuals, that recognized and promoted well-being as fundamental for all children and young people's learning, and identified and addressed policy contradictions and inconsistencies.

Practitioners expressed interest in developing their understanding and use of SEL as an integral

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part of teaching across the curriculum. In England and Wales, government departments and mental health organizations led by MindEd produced a set of resources ('Well-being for Education Return') that embraced social and emotional aspects of learning as children return to school, addressing the well-being of children, young people and teaching staff **(MindEd, 2020)**.

The policy debate often becomes polarized, with well-being placed as an alternative to attainment. However, we suggest that policy-makers need to address well-being and attainment as mutually supportive. They need to support whole school and multi-agency engagement using early intervention and prevention strategies and establishing policies and practices that are evidence based and sustained over extended periods to allow effective embedding, evaluation and evolution of practice. With the world potentially now facing a prolonged pandemic and its after-effects, well-being and the social and emotional aspects of learning are more crucial than ever if our children and young people are to thrive and learn.

By adopting an interdisciplinary and interdepartmental approach, drawing on evidence from education, health and social care, including disciplines such as psychology and neuroscience, policy-makers can understand and address the social and emotional aspects of learning, and balance them with the cognitive and intellectual. Here we have focused on policies mainly in England and Scotland that sought to address the social and emotional needs of students and the nature of learning. Other policies exist and should be cultivated in other countries throughout the world. At the most basic level, a healthy SEL school climate and socio-emotional development requires young people to feel safe in school. Cohen and Espelage **(2020)** offer an insightful window into practices to promote school safety through bullying reduction and violence prevention in many different countries.

4.3 .5

IMPLICATIONS OF HUMAN SOCIAL, EMOTIONAL, AND COGNITIVE DEVELOPMENT FOR SEL POLICY: THE CASE OF ADOLESCENTS AND THE JUSTICE SYSTEM

As adolescents transition into adulthood, they encounter an increasing number of opportunities to make independent decisions.

As adolescents transition into adulthood, they encounter an increasing number of opportunities to make independent decisions. While scientific research suggests that adolescents are sometimes capable of making adult-like decisions, they also are more likely to make risky and impulsive choices compared to children or adults **(Icenogle et al., 2019)**. Although risk-taking is a feature of healthy development and can be prosocial (e.g. making friends, auditioning for a play) **(Duell and Steinberg, 2018)**, risky choices can also lead to dangerous outcomes (e.g. substance abuse, car accidents) **(Kann et al., 2018)**. Adolescents' risky behaviour therefore poses two important questions for societies: should adolescents be treated differently from adults when they break the law, given that risk-taking is part of normal development? Conversely, at what ages can adolescents be expected to make adult-like choices in different situations? Research on neural and psychological development can help answer these questions and drive evidence based policy-making about adolescence. A scientifically informed approach can allow societies to respond to, and reduce, adolescents' dangerous risk-taking, while also allowing adolescents the freedom to make decisions when developmentally appropriate **(Cohen et al., 2015)**.

Two research findings from developmental science are particularly relevant to policy: (1) social and emotional context is critical in understanding adolescent decision-making; and

A second key finding from developmental science is that adolescents are more sensitive to their experiences, making them more likely to change, for better or worse, compared to adults.

(2) adolescent brain changes make them more sensitive to their experiences. Adolescents tend to take risks in affectively 'hot' or arousing contexts, like with friends or in highly emotional situations **(Steinberg, Icenogle and Shulman, 2018)**. In contrast, adolescents typically make decisions similar to adults in affectively 'cool' situations, removed from social and emotional contexts **(Steinberg, Icenogle and Shulman, 2018)**. This difference in adolescents' decision-making in different situations has been linked to differences in brain development across neural systems. Neural systems and psychological processes required for decision-making in cool contexts, where there is ample information and time for decision-making, operate at adult levels by around age 16 **(Luna et al., 2015; Icenogle et al., 2019; Steinberg and Icenogle 2019)**. However, systems necessary for making decisions in hot contexts involving social and emotional situations continue to change into the mid-twenties **(Casey et al., 2019; Andrews, Foulkes and Blakemore, 2020)**. In these affectively hot situations, adolescents' risk-taking has been linked to heightened reward-system neural activity **(Chein et al., 2011; Smith et al., 2014, 2018)** and decreased self-control **(Cohen et al., 2016a, 2016b)** compared to adults. A second key finding from developmental science is that adolescents are more sensitive to their experiences, making them more likely to change, for better or worse, compared to adults **(Galván, 2014)**. This idea is linked to the finding that adolescence is a period of relatively increased neural change, or brain 'plasticity' (as dicsussed above) **(Spear, 2013; Fuhrmann, Knoll and Blakemore, 2015)**. Collectively, developmental research points to decision-making vulnerabilities in affectively hot, but not cool, contexts, and suggests that adolescents' brains are more amenable to change.

Scientific findings about adolescent brain and behaviour can inform legal policy-making **(Steinberg and Scott, 2003)**. Notably, these findings were summarized in amicus briefs from the American Psychological Association, and subsequently cited in several US Supreme Court decisions

(the highest judiciary court in the USA) that protect youth from harsh sentencing **(Steinberg, 2013)**. The Court argued that even for the most heinous crimes, the death penalty and life without parole constitute cruel and unusual punishment for adolescent offenders, because adolescents' risk-taking reflects normal development **(Cohen and Casey, 2014)**. Importantly, they also argued that adolescents' neural plasticity may make them more amenable to rehabilitation compared to adults, and that lifelong punitive measures are inappropriate for people who have a greater capacity to change **(Galván, 2014)**. The personal life narratives from youth who have been involved in the justice system reflect this reality **(Senghor, 2016)**.

Developmental science findings can also be helpful in devising policies or programmes that prevent dangerous risk-taking.

These arguments are also relevant to less extreme cases of criminal behaviour, particularly when crimes are committed in hot contexts, like when friends are present (e.g. speeding while friends are in the car **(Bonnie and Scott, 2013)**. The idea that adolescents, compared to adults, should be considered less culpable for criminal behaviour, and that they are more impacted by both good and bad experiences, also raises the question of what sort of repercussions are appropriate for adolescents **(Steinberg and Scott, 2003; Galván, 2014)**. Adolescents, and even young adults into their twenties, may be best served by a rehabilitative approach **(Casey et al., 2017)**. In line with this notion, recent research suggests that justice-involved adolescents with harsher treatment are more likely to reoffend, compared to those with lighter sentences focused on rehabilitation **(Beardslee et al., 2019)**. Thus, consideration of the context of adolescents' risk-taking and weighing potential increased capacity for change in adolescents can help societies address adolescent criminal behaviour in a developmentally appropriate manner.

Developmental science findings can also be helpful in devising policies or programmes that prevent dangerous risk-taking. Adolescent risk-taking may be attenuated by limiting

Outside of social and emotional contexts, in affectively cool situations, developmental science suggests adolescents as young as sixteen are able to make adult-like decisions.

opportunities to take risks in social or emotional situations. Graduated driving laws limiting the number of passengers allowed in a car with a teenage driver have proven effective in reducing fatal traffic accidents **(Chen, Baker and Li, 2006; Williams, 2007)**. Mentoring programmes, in and beyond developmental science, have also shown promise in preventing negative outcomes in at-risk youth **(Raposa et al., 2019; Burnard et al., 2022)**.

Outside of social and emotional contexts, in affectively cool situations, developmental science suggests adolescents as young as sixteen are able to make adult-like decisions. Such contexts provide ideal avenues for adolescents to make independent decisions and actively participate in society. Adolescents are able to make some independent medical decisions beginning at age sixteen **(Steinberg et al., 2009)**. Some developmental scientists have advocated for allowing adolescents to provide informed consent or vote by age sixteen **(Steinberg and Icenogle, 2019)**. Allowing adolescents to vote may also increase the likelihood of their later civic engagement **(Hart and Atkins, 2011; Torney-Purta and Amadeo, 2011; Ruck et al., 2016)**.

In sum, ideas from scientific research can be applied broadly to create effective, just policies and practices. Such a scientifically informed approach protects adolescents when their risky behaviours result from normal development, and simultaneously allows adolescents the opportunity to participate in society to promote their independence.

4.4 Conclusion

Moving forward, SEL practices and policies should be responsive to context and culture, be informed by neurobiological development, and take educator's socio-emotional capacities into account. Research from diverse disciplines and geographies has converged to show that for young people to thrive in their schools, homes, communities and eventually the workforce, their socio-emotional development needs to be supported in each of those contexts. Unfortunately, youth often fail to receive this support. Healthy socio-emotional development, which progresses in a dynamic, non-linear, individually variable fashion across the life span, can be supported by strong interpersonal relationships with diverse others, opportunities for play and authentic engagement in meaningful cultural practices, and feelings of safety, belonging and autonomy. Given this focus on SEL in school aged people, we describe two developmental periods of especially significant socio-emotional growth and review programmes, interventions, assessment practices and policies geared towards promoting SEL in an equitable manner for all youth. In particular, we argue that future SEL school practices and government policies for students, teachers and all involved in the eco-system supporting youth development should be responsive to nested contexts and cultures and be informed by neurobiological and psychosocial development.

4.5 Key messages and recommendations

4.5 .1

KEY MESSAGES: IMPLICATIONS FOR EDUCATION POLICY AND PRACTICE

- Learning is inherently social, emotional, relational and affective and both negative and positive emotions play a role in learning processes.

- Social, cultural, temporal and physical contexts, as well as aspects of identity, affect the experience of SEL.

- SEL is non-linear, dynamic,

Research from diverse disciplines and geographies has converged to show that for young people to thrive in their schools, homes, communities and eventually the workforce, their socio-emotional development needs to be supported in each of those contexts.

lifelong and shaped by contexts, relationships and neurobiological development. Although there are general trends in the developmental phase in which particular socio-emotional skills are refined, developmental patterns are not universal. Converging neurobiological and psychosocial evidence reveals early childhood and adolescence to be especially marked periods of development of socio-emotional skills.

- Play and creativity have an important role in supporting SEL from childhood to adulthood.

- Dedicated SEL interventions as part of formal education show significant results across all educational stages. Learners benefit from an individualized approach to supporting socio-emotional development and learning, but also from group/class-level interventions.

- Assessing students' capacities and proclivities for engaging socio-emotional skills is important for helping them refine those skills and drawing educators' and policy-makers' attention to their development.

- In the Global North, indigenous perspectives on SEL are often quite different from psychological perspectives on the subject.

- Art is a significant mode of social and emotional education in many First Nations contexts in the Global North.

4.5 .2

KEY RECOMMENDATIONS: POLICY RECOMMENDATIONS, SUGGESTIONS FOR FUTURE RESEARCH

- Educators and students should be taught to recognize and support the development of SEL practices and reflect on their own socio-

Guided by indigenous perspectives and experiences, SEL practices can benefit from taking a more holistic approach, appreciating multiple possible worldviews and learning to teach in culturally responsive ways.

emotional skill development.

- SEL assessments should be inclusive whereby educators refrain from using goal structures exacerbating individual competition between students.

- Policy-makers are key players in addressing SEL change agendas as they work to make school and community policies more aligned with the science of socio-emotional development.

- High-quality SEL assessment should be psychometrically sound, culturally responsive, developmentally appropriate, multi-dimensional and responsive to students' assets.

- Dedicated SEL interventions should be implemented as part of formal education to support and facilitate students' SEL development, with different kinds of interventions (e.g. class-level, individualized) having different impacts.

- Adoption of interdisciplinary and joined up interdepartmental directives is essential.

- SEL practices that offer learners opportunities to contribute to the social world are central.

- SEL assessment should use integrative approaches and diverse tools by taking into account biological development and individual differences.

- Guided by indigenous perspectives and experiences, SEL practices can benefit from taking a more holistic approach, appreciating multiple possible worldviews and learning to teach in culturally responsive ways.

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