The background features a large teal circle on the left side. A white line starts from the top of the circle and extends diagonally down to the right, creating a triangular area. This triangle is filled with a gradient of green, from a darker shade at the top to a lighter shade at the bottom. To the right of the circle, there is a dark teal semi-circle and a blue square. The text is positioned within the green triangle.

QTURN WHITE PAPER #1

# A Framework for Socio-Emotional Skills, Supports, and Equity

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# Summary

Evaluating evidence about the relations among children’s<sup>1</sup> prior history, engagement in program settings, resulting SEL skill growth, and ultimately desired transfer outcomes (e.g., agency to succeed in other settings) has been sporadic. This is true because the positivist theory and methodology most researchers and evaluators employ is poorly suited to formative explanation and more nuanced impact models that address questions about *how* and *how much* - the explanatory information necessary for improvement. QTurn’s Quality-Outcomes Design and Methods (Q-ODM) toolbox was created to address these fundamental problems in evaluation of out-of-school time (OST; afterschool, child care, drop-in, mentoring, tutoring, etc.) programs.

In this white paper, we introduce a theoretical framework designed to describe integrated mental and behavioral parts and processes – schemas, beliefs, awareness, and agency – that *are* socio-emotional skills. With improved definitions of SEL skill, and causes of change in SEL skill, we hope to improve reasoning about policies for socio-emotional supports in any setting where children spend time. Perhaps most importantly, we hope to improve the validity of measurement and evidence about the effects of program quality on child outcomes in these settings. Building from the Socio-Emotional Skills Framework, issues related to valid SEL measurement are covered in QTurn’s White Paper #2, *Guidance for Measuring Socio-Emotional Skills*. Issues related to improving the validity of impact evaluation designs for OST programs is covered in QTurn’s White Paper #3, *Guidance for the Quality-Outcomes Evaluation Design and Measures*.

# I. Introduction

A recent review found over 100 different frameworks describing socio-emotional learning (SEL) supports and skills (Berg et al., 2017). This cacophony of words and concepts undermines the shared understanding and language necessary for coordinated action,<sup>2</sup> both within the organizations doing the work and among social scientists producing the evidence. Confusion about what constitutes SEL skill, and how “skill” may or may not differ from many other concepts like competence, abilities, traits, attitudes, and mindsets, undermines shared understanding and slows policy processes that rely on at least approximate consensus around shared meanings and objects of measurement.

Mismatches between what we think we should be teaching and measuring, what we are actually teaching and measuring, and the actual nature and functioning of SEL skills, translate into wasted time and resources. This is perhaps nowhere more evident than in education fields, where the obvious injustice of ignoring SEL skills (e.g., how individual students, teachers, and administrators think and feel about their own situation) is rarely addressed by most of the SEL tools and methods. We suggest that the cacophony of SEL concepts creates a variety of associated problems; such as, curriculum conversations that feel productive while creating confusion and misunderstanding, poor measurement choices, misspecified theoretical and statistical models, and the resulting failure to improve the quality of instructional services and ensuing child outcomes.

In this white paper,<sup>3</sup> we draw upon a translational framework (Peck, 2007; Peck et al., 2019; Roeser et al., 2006; Roeser & Peck, 2009) to show what SEL skills are and how to support children and adults to grow them. This sorting out of the parts of SEL skill – the objects of measurement – can also show us how to measure real changes in SEL skills, how to measure the critical qualities of SEL supports, and ultimately, how to model the impact of educational experiences for specific types of equity effects. In subsequent white papers, we take up the related issues of selecting measures and evaluation designs necessary to detect impact and equity effects. Unfortunately, the traditional psychometric and counterfactual ways of thinking about how to measure and evaluate impacts are also part of the problem.

The *multilevel person-in-context~neuro*person (MPC<sub>n</sub>) framework (Peck et al., 2019) clarifies the nature, functioning, and growth of SEL skills within a cascade of causal effects that flow into and through the individuals who participate in OST settings. Importantly, it achieves this clarity by relying minimally on inherently ambiguous terms like emotion, motivation, and cognition.<sup>4</sup> For example, the MPC<sub>n</sub> framework describes:

- a. the mental or psychological parts and dynamics that govern SEL skill growth (e.g., what happens in individuals’ mind/brain before, during, and after SEL skill growth)
- b. how different types of *behavioral* SEL skill stem from more fundamental *mental* SEL skills
- c. the need to consider the baseline SEL skills (e.g., attachment styles) and prior stress/trauma experiences of children when they enter a program setting
- d. the causal pathways from baseline skills, through point-of-service (POS) quality, to SEL skill growth, and ultimately, outcomes in multiple settings
- e. SEL “equity effects” in programs where vulnerable children experience growth in SEL skills similar to or exceeding their more typically developing peers

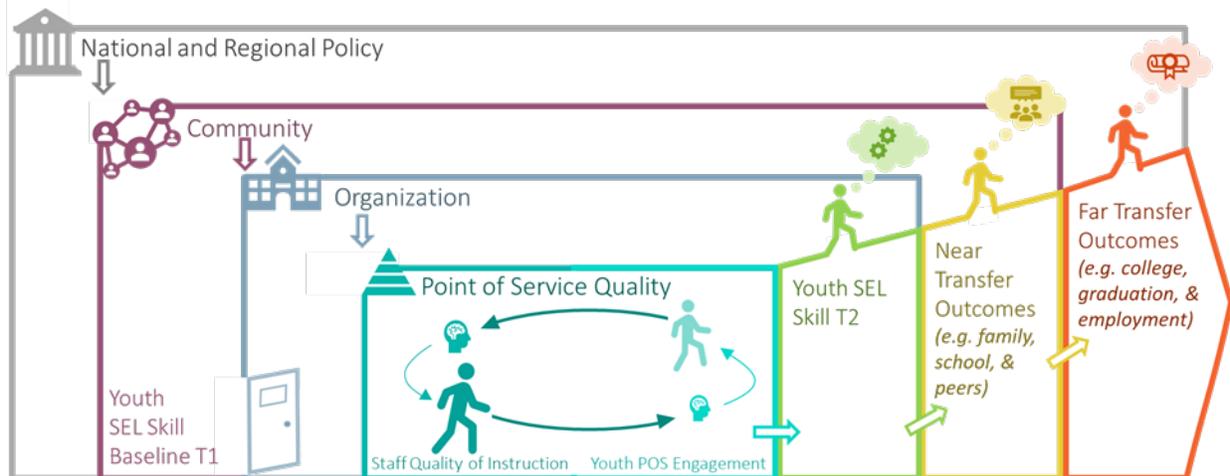
The MPC<sub>n</sub> framework provides a generic theory of change applicable to most educational settings – including the OST field, which is of specific relevance to our work. Figure 1 shows the nesting of children and program offerings within organizations, communities, and regions. The arrows linking each context indicate that quality in a given context (e.g., the community) influences the quality of settings nested

within it (e.g., organizations). For example, in communities with a larger population of trained youth workers, organizations will find it easier to hire more qualified staff, and in organizations with higher wages where qualified staff are retained, more youth will experience high-quality instruction.

Figure 1 presents a multilevel cascade of causal effects across levels of context and highlights the extent to which causal processes at the POS (e.g., the effects of staff practices on youth engagement) depend on program staff enacting different roles at different levels of context. For example, program managers and staff *plan with data* during team meetings at the organization level, and then staff enact intended improvement practices at the POS level.

The reciprocal interactions between staff and youth at the POS are at the center of this cascade of causes and effects. Where staff practices at the POS are of sufficiently high quality during each program session, children’s mental and behavioral SEL skills are engaged and grow. As children move from OST settings to other social contexts (i.e., the near transfer of SEL skills to family, school, peers, and the far transfer of SEL skills to subsequent life course achievements, such as early adulthood health, education, and employment), they apply and further develop their growing SEL skills during the many personal and social challenges of daily living. Figure 1 also suggests that children’s past experiences and pre-program SEL skills must be understood for staff to successfully translate curricula into high-quality practices that are designed to engage children’s SEL skills at program entry.

Figure 1. The MPCn Theory of Change for Multi-level Cascade of Causes and Effects



SEL skills have a compounding effect on many developmental outcomes that has been described as *dynamic complementarity* (Heckman, 2007); that is, SEL skills beget other types of skills. Specifically, the ability to use SEL skills (i.e., *self-regulation*, in its general sense) makes lots of good things happen. Children and adults operating at high levels of SEL skill can more easily get on to the business of learning what the context has to offer, rather than being triggered by, and/or exiting, that context. Staff in educational settings that are “ready for children” understand that children and adults enter their classrooms with a wide range of background experiences, and it is the business of educators – particularly in the OST field – to directly address those social and emotional needs and strengths in each moment. Ignoring the background experiences of children and adults, and how they feel in the moment, perpetuates inequity because people operating at high socio-emotional skill levels tend to more easily engage task content and corresponding relationships, whereas those operating at lower SEL skill levels are typically less able to productively engage tasks and/or relationships which are critical for learning.

## II. The Neuperson

In Figure 1, the icons depicting a brain between staff and youth behaviors at the POS indicate that mental processes are essential elements of behavioral interactions. For example, encouraging children to plan how they will complete an activity requires not only forethought on the part of staff but also prompts youth to devote attention to the task, set goals, and solve problems. Figure 2 represents a close-up of these mental processes and their relation to behavior; that is, it depicts the neuperson part of the MPCn framework,<sup>5</sup> simplified and tuned for use in OST settings (but applicable to *all* other developmental settings).

We use the term *neuperson* to emphasize how SEL skills can be defined and understood in terms of several mental parts and processes characterizing the human brain. As shown in Figure 2, these qualitatively different parts of

mental skills are centered in different regions of the brain (i.e., the limbic system, the neocortex, and the prefrontal cortex) and have different implications for the nature and growth of SEL skills. For simplicity, we refer to *Schemas*, *Beliefs*, and *Awareness*.<sup>6</sup> Similar to dual-process<sup>7</sup> approaches to psychological functioning (e.g., Deutsch & Strack, 2006; Hofmann et al., 2009; Kahneman

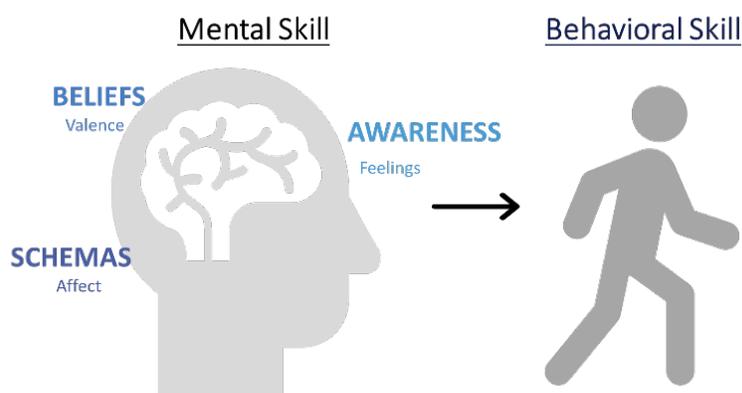
& Frederick, 2007), these three terms denote three different information storage and processing systems typical of all developing humans, each of which has been described in detail within multiple clinical and experimental literatures (Berntson & Cacioppo, 2003; Bowlby, 1988; Derryberry & Tucker, 1991; Epstein, 2003; Lewis & Todd, 1997; MacLean, 1990; Roeser & Peck, 2009).

Schemas, beliefs, and awareness are the raw material from which all mental SEL skills (by whatever name) are constructed; that is when considered together, they *are* mental skills. In addition, Figure 2 distinguishes explicitly between mental skills and *behavioral skills*, helping us to focus on the extent to which mental skill growth promotes behavioral skill growth. Finally, the neuperson model integrates and extends previous SEL frameworks by clarifying two different kinds of human agency (described below) that result from the integration of mental and behavioral skills, focusing especially on children's emerging capacity to *intentionally* author their own development.

### Schemas

We use the term *schema* to describe how information (e.g., knowledge, memory) about the self and world is, in part, stored, organized, and processed in a particular area of the brain: the limbic system. More specifically, the term schema refers to non-verbal, non-symbolic, affectively-charged representations of the self and world (Peck, 2007; Peck et al., 2019),<sup>8</sup> as in *attachment schemas* (Bowlby, 1988). As relatively-enduring parts of the person, attachment schemas act like *set points* for the way children initially engage in and respond to program offerings; for this reason, we often refer to them as *basic regulation* skills. For example, some youth enter OST programs having had adverse

Figure 2. The Neuperson Model



childhood experiences (Carlson et al., 2019; Merrick et al., 2018) that can, in the moment, mean low levels of basic regulation. ‘Meeting children where they are at’ means being sensitive to their current thoughts and feelings and understanding that they may be emotionally triggered in ways that make it difficult to be mentally present and engaged in the current program offering.

Schemas are formed and elaborated automatically, especially during child-caregiver interactions in infancy and early childhood. Their behavioral implications have been described in terms of four primary *attachment styles* (i.e., secure, insecure [anxious, or avoidant], and disorganized). Roughly speaking, this means that the “emotions” generated during social interactions are imprinted onto the schema for that person in the form of affective charges in long-term memory. Future encounters with that person automatically activate the schema, such that relevant memories and feelings are more *accessible* to both the behavioral response system and conscious awareness.

Past experiences that were stored in long-term memory as schemas are typically activated automatically in response to environmental triggers, without the need for conscious awareness or planning. The schemas children develop tend to be specific to particular people but can also reflect social roles (e.g., caregiver, teacher), types of people (e.g., a “good” person), events (e.g., bedtime), objects, and situations. Where they encounter a person or situation with which they have had past experiences, children’s schemas tend to unconsciously influence their thoughts, feelings, and behavior. For example, if a child’s schema for “caregiver” was formed through past encounters with a negligent caregiver, future encounters with caregivers may evoke thoughts, feelings, and behaviors reflecting past trauma. Conversely, if early caregiver experiences were generally positive, this may make it easier for the child to quickly build trust and relationships with other adults.

Including schemas as a core feature of the MPCn framework is intended to help practitioners understand and address the current effects of children’s (as well as practitioners’ own) past experiences. For practitioners, a critical issue is that children’s schemas operate very quickly (i.e., in milliseconds), often translating an initial environmental cue (i.e., a trigger) into strong emotional and behavioral responses that may never enter the child’s conscious awareness. This means, among other things, that expecting children to consistently control their feelings and behavior, and reacting critically when they don’t, is tantamount to blaming and punishing children for things that have happened *to* them (and that may take them years to understand and manage). Learning to recognize and manage such emotional episodes is a major challenge for both children and adults, but understanding the nature and functions of schemas, as core elements of everyone’s self-system, can help smooth and accelerate that learning process.

## Beliefs

We use the term *belief* to describe how information (e.g., knowledge, memory) about the self and world is, in part, stored, organized, and processed in a second area of the brain: the neocortex. More specifically, the term belief refers to verbal-symbolic representations of the self and world.<sup>9</sup> Basic beliefs (i.e., *beliefs in* and *beliefs about* a thing; Fishbein & Raven, 1962) are the most fundamental unit of information in the neocortex and are stored as long-term memory. Basic beliefs differentiate and integrate across time to form higher-order belief systems, such as attitudes (i.e., a belief in a thing integrated with a belief about the goodness or badness of that thing) that combine to form goals that combine to form plans. For example, goals can be defined as a system of beliefs about some end-state (e.g., the goal to graduate can be described in terms of beliefs about a vast range of self and world attributes, such as ‘graduating requires good grades’ and ‘good grades require studying’). During childhood, and beyond, beliefs are formed *automatically* during social interactions but, also, *intentionally* during self-reflection (particularly, during and after adolescence).

Just as attitudes, goals, and plans can be viewed as increasingly complex belief systems, there are many other mental constructs that can be defined in terms of belief systems (e.g., values, opinions, mindsets, self-concepts, social identities). From an MPCn framework perspective, most (and usually all) of the terms for mental skills used by typical SEL frameworks and available SEL measures can be defined in terms of beliefs about the self and world. For example, both perspective-taking (e.g., the ability to distinguish another person’s perspective from one’s own perspective) and theory of mind (e.g., the ability to understand that other people have their own intentions and feelings) can be defined in terms of *beliefs about others’ goals, intentions, and feelings*.

In contrast to schemas (which are relatively stable and change mainly as a result of many direct and repeated social interactions), beliefs are *relatively* malleable and can be modified as a result of single indirect social interaction (e.g., vicarious learning, or learning by observing something that happens to someone else) or even simply by reflecting on previous or anticipated social interactions. Including beliefs as a core feature of the MPCn framework is intended to help practitioners address things like children’s specific subject-matter knowledge (e.g., what youth need to know to complete a homework assignment) and more general personal and social identity issues (e.g., goals, values, self-concepts, self-efficacy, and social roles).

Also, in contrast to the “affective” information that is part of schemas (i.e., we use the term *affect* where referring to the emotional-state information stored in schemas), beliefs are characterized by positive and negative “valences” (i.e., we use the term *valence* [or *evaluative*] where referring to the emotional-state information stored in beliefs). This means that the “feelings” generated during interactions with the self and world *can be* encoded into belief systems in the form of *beliefs about the goodness or badness* of features of the self and world. Future encounters with similar features of the self and world will tend to automatically activate those valenced beliefs, such that relevant memories and feelings are more *accessible* to both the behavioral response system and conscious awareness.

The mistaken conceptualization of SEL mental skills solely in terms of valenced beliefs about the self and worlds was one of our primary motivations for selecting a framework that places belief systems within the larger context of the entire mental life of a person, characterized by schemas and awareness in addition to beliefs. For practitioners, it is critical to understand that compared to schemas, beliefs are (a) more easily described, formed, accessed consciously, and changed. However, both schemas and beliefs tend to (b) be relatively enduring, (c) exist and function outside of conscious awareness, and (d) influence feelings and behavior only after being *activated* (e.g., by an environmental trigger or self-reflection).

## Awareness

The term *awareness* (or *executive functions*) refers specifically to consciously controlling the focus of awareness in relation to immediate thoughts and feelings i.e., *currently-activated* schemas and beliefs. Executive functions (e.g., shifting and focusing awareness) operate on thoughts and feelings to provide the basis for all forms of self-reflection (e.g., secondary appraisal,<sup>10</sup> planning, and the effortful control of impulses). In this view, executive functions are the mental skills that allow individuals to participate *intentionally* in their own learning and development.

The distinctions between (a) awareness and both (b) relatively enduring beliefs and schemas and (c) immediate thoughts/feelings can be clarified by thinking about how the hundreds of beliefs and schemas that you have accumulated across your lifespan tend to remain unconscious, in long-term memory, most of the time. If any of these beliefs or schemas become activated, they are re-represented in working memory as *potentially* consciously-accessible thoughts and feelings. In other words, the

subset of currently activated beliefs and schemas, in any given moment, reflect only a tiny proportion of the total set of beliefs and schemas that could potentially be activated in any given moment. Immediate thoughts and feeling reflect only the currently activated beliefs and schemas and are the *contents* of the *stream of consciousness*. Awareness is the *process* of focusing consciously, and usually selectively, on only some of those thoughts and feelings available in the stream of consciousness. However, all activated thoughts and feelings do not necessarily become the focus of awareness. Activated but unconscious thoughts and feelings are also referred to as impulses and can be a major influence of behavior.

Including awareness as a core feature of the MPCn framework is intended to help practitioners address the most developmentally-advanced forms of self-regulation - intentional agency. Unfortunately, the many meanings assigned to the term *agency* across disciplines has caused much confusion. By distinguishing awareness from both beliefs/schemas and thoughts/feelings, we can define the most advanced form of agency in terms of the dynamic relation between awareness and thoughts/feelings. Consciously shifting and sustaining the focus of awareness on selective subsets of thoughts and feelings allows individuals to actively curate their own identity; that is, to selectively activate, create, elaborate, and encode into long-term memory some beliefs but not others.

In our view, this kind of conscious participation in mental processing is necessary for achieving the highest forms of human self-regulation. In line with the burgeoning literature on mindfulness, practitioners will benefit from a deeper understanding of awareness and its centrality to all forms of SEL skill growth. In particular, we hope practitioners will use the MPCn framework to help children develop their awareness skills and apply them intentionally to reflecting, evaluating, planning, problem solving, inhibiting and redirecting impulses, and participating consciously in their own personal and social identity development.

Finally, regarding our somewhat atypical use of the emotion concept. Rather than referring to the neurobiological parts and processes that we think of as *emotion* (e.g. physiological processes mediated by peptides, like oxytocin, and neurotransmitters like dopamine, epinephrine, and serotonin), we focus instead on three different ways emotions influence, and are influenced by, schemas, beliefs, and thoughts. Specifically, emotions influence schemas by imprinting them with affective charges, beliefs by imprinting them with valences, and thoughts by imprinting them with feelings. Conversely, schemas, beliefs, and thoughts influence emotions according to, respectively, their affective charges, valences, and feelings. In this way, we hope to clarify how all SEL skills involve emotional energies of some sort, whether or not they are acknowledged as such by practitioners or researchers (e.g., belief measures are often treated as if they have nothing to do with emotion). In our view, activating any belief (or schema) is likely to cause an emotional response, whether or not that response is noticed consciously as a feeling. When children and adults manage their own thoughts and feelings – e.g., consciously decide what to think, feel, or do – they have achieved a highly advanced *state* of self-regulation that we refer to as intentional agency. These states tend to be fleeting and infrequent, but they can also be cultivated, prolonged, and manifested more frequently.

## Agency

The concept of human agency can be described as the ability to act on the self or world in order to change the self or world. The MPCn framework refers to two types of agency: automatic and intentional (see Figure 3). All children and adults exhibit *automatic agency* (Type 1). Type 1 Agency is defined as a *primary appraisal* process; that is, settings are interpreted automatically and unconsciously, based on pre-existing beliefs and schemas. The integrated schema and belief systems that children bring to a setting provide a set point for their *basic regulation* (i.e., Type 1 Agency) skills. The behavioral

consequences of these habitual ways of responding can often be detected by external observers, as when a child appears to be interested and at ease with the setting versus bored or agitated. Blair and Raver (2012) described the automatic, primary-appraisal processes characterizing Type 1 agency as "less effortful processes associated with stress physiology, emotional arousal, and attention focusing" and "reactive, highly automatic, and phylogenetically older styles of response" (p. 648). In practical terms, having adaptive basic regulation skills means that children's beliefs and schemas tend to be triggered in a good way, such that they don't have to think much about applying their skills because they just come out effortlessly. This is often defined as mastery of a skill, and the more that a setting engages the child's current skill set (i.e., the setting is ready for the person), the more easily adaptive beliefs and schemas are automatically activated, which leads to more frequent mastery experiences and corresponding skill growth.

Figure 3. Type 1 and Type 2 Agency



In contrast, *intentional agency* (Type 2) involves the more subtle and intermittent process of consciously shifting and focusing awareness among immediate thoughts and feelings, as in self-reflection and secondary appraisal (e.g., reflecting on how your current thoughts fit with your goals and values). Consciously focusing awareness on thoughts and feelings (e.g., reflecting on behavioral options) occurs best when children (a) have had their basic regulation needs met (e.g., they are calm, focused, and understand the task content) and (b) are supported by staff (e.g., to reflect on task content, past experiences, future plans, attributed meanings, and cause-effect relations as they emerge during POS activities).

For OST and early childhood practitioners, these two types of agency are recognizable in the philosophical purposes of programs and curricula. Type 1 Agency is reflected in standards for program and classroom quality – typically discussed in terms of intrinsic motivation – that are designed to promote feelings of safety and interest in the setting and its content. Type 2 Agency, which is especially important for adolescents, is reflected in definitions of quality that emphasize voice, autonomy, planning, reflection, mindfulness, and other forms of *advanced regulation*. Type 2 Agency around parenting behavior is also a central goal for adults in two-generation early childhood home visitation models.

## Summary

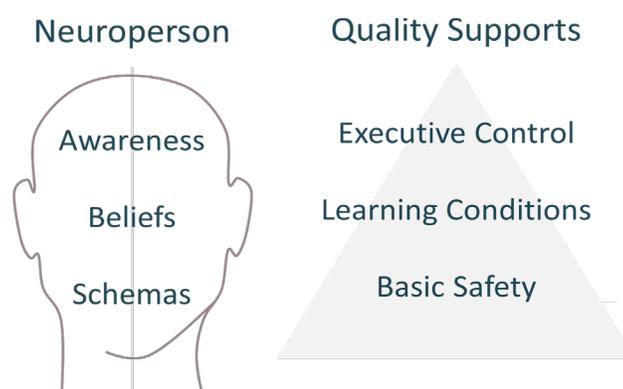
Focusing on schemas, beliefs, awareness, and agency – in contrast to terms like cognition, emotion, and motivation (which tend to be ambiguous) – draws attention to, and helps demystify, some of the key challenges faced by educators, such as: (a) how to understand and respond to children (and adults!) who have had adverse life experiences and whose corresponding attachment schemas are triggered while participating in OST services (creating basic regulation issues), (b) how to understand the bulk of terms used in the many SEL frameworks as different words (e.g., knowledge, mindsets, values) for the same things (i.e., beliefs about the self and world), and (c) how to understand the critical role that conscious awareness plays in promoting the highest forms of human agency (e.g., allowing youth to become intentional authors of their own identity and development). Harmonization of these neuroperson systems in pursuit of life goals (e.g., developing an integrated identity, graduating from school, and keeping a good job) can be viewed as the main point of focusing on SEL skill growth.

### III. SEL History, Supports, and Equity

Socio-emotional learning, then, is a process of self-regulation that promotes the development of both automatic and intentional forms of agency where children and youth are supported and trusted to make decisions about things that affect them (Smith, McGovern, Larson, et al., 2016). We describe a person’s *SEL history* as their cumulative learning history. This history reflects all of the things the person has experienced and stored in long term memory, including subject-matter knowledge but, particularly, intense positive and negative emotional experiences. In the neuroperson model, these emotion-laden aspects of ongoing experience are stored in memory in the form of valenced beliefs and affectively-charged schemas, and re-activating these beliefs and schemas (e.g., via environmental triggers or self-reflection) influences ongoing thoughts, feelings, and behavior.

The MPCn framework facilitates understanding of how, and how much, staff practices can influence children’s mental and behavioral skills. For example, settings that activate children’s secure attachment schemas and personal goals, at the “first look” or on the “second take,” are much more likely to promote engagement and skill learning. This is just a different way of saying that high-quality settings cause positive development. Figure 4

Figure 4. SEL Skills and Supportive Quality Practices



presents the alignment of widely shared standards for program quality with the parts of the neuroperson. In the OST and early childhood fields, program quality standards are often already configured to activate adaptive mental and behavioral skills.

As we know, children arrive at programs with a wide range of schemas and beliefs. Assuring basic safety, also called creating a “safe space,” requires attention to program staff’s relationships with children, families, and communities. Being sensitive to each and every child’s schemas and beliefs is particularly important where serving children who have experienced chronic stress or trauma. These children are likely to respond unintentionally to setting features, in ways that can be misunderstood. This is the case, for example, when a well-studied test taker is so fearful of testing conditions that they make more mistakes than usual. The at-ease state of basic psychological safety has not been achieved. In our experience, early career staff benefit from guidance on how to be responsive to fast moving emotion-laden episodes (e.g., how to be supportive but not intrusive), where the main goal is being responsive rather than dismissive. Automatic Type 1 agency can usually be achieved where staff explicitly acknowledge children’s thoughts and feelings and what their prior experiences mean for their ability to engage within program offerings. Increasing the children’s understanding of these processes promotes intentional SEL skill growth, or Type 2 Agency.

Finally, we use the term *SEL equity* where referring to situations in which learning contexts have been improved to identify and support children who have had difficult SEL histories. Because SEL skills are critical learning skills, they have a compounding effect on many developmental outcomes (e.g., academic achievement). As we mentioned at the beginning of this paper, this process is called dynamic complementarity (Heckman, 2007), meaning SEL skills beget other types of skill. Both how well a setting scaffolds children’s existing SEL skills, and how much they learn to manage those skills autonomously in

that setting, really matters for outcomes. Although there are many ways to define and operationalize the term equity, we use a relatively generic working definition of an *SEL equity effects* in our impact models: Equity effects occur when children who enter a setting with low SEL skills grow those skills at the same or higher rates as their higher-skilled peers. Equity effects also occur when children who enter a setting with higher SEL skills retain or increase those skills over time (i.e., the setting doesn't undermine their skills).

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# End Notes

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<sup>1</sup> For simplicity, we generally use the term *children* when referring to children and youth, ages 5 to 18.

<sup>2</sup> Given the extent of diversity across SEL frameworks, Jones et al. (2019) developed resources to help stakeholders understand the unique strengths of different frameworks as well as the alignment between core elements of these different frameworks. The general conclusions from this work are (a) there is currently no single consensus framework that is obviously more scientifically or practically valid than any or all of the others, and (b) the use of the same terms by different frameworks where presumably referring to different things (i.e., jingle fallacies), and the use of different terms by different frameworks where presumably referring to the same things (i.e., jangle fallacies), are abiding challenges faced by stakeholders charged with making funding, evaluation, training, performance, measurement, and analysis decisions.

<sup>3</sup> The material summarized in this white paper draws heavily from an open source *working paper* by QTurn (Peck, Smith, & Smith, 2019) that requires only this notification that any content appearing in the working paper may also appear here in identical or slightly altered form. The working paper provides more detailed definitions and discussion of the specific terms and concepts summarized here (many of which may sound familiar but may not correspond to a given disciplinary usage) and is accessible at: <http://www.qturngroup.com/MPCn>.

<sup>4</sup> The inherently ambiguous meaning of terms like emotion, motivation, and cognition is described in many places (e.g., Baars, 1986; Barrett, 2006; Roeser et al., 2006); we describe below how we use more specific terms when referring to particular mental phenomena that are usually described generally in terms of emotion and cognition.

<sup>5</sup> The neuroperson part of the MPCn framework (see Figure 2) is a practical simplification of the more detailed Basic Levels of Self (BLoS) model (Roeser et al., 2006; Roeser & Peck, 2009).

<sup>6</sup> The BLoS model uses similar but additional terms mapped onto to a more nuanced description of brain systems (Peck, Smith, & Smith, 2019; Roeser et al., 2006; Roeser & Peck, 2009).

<sup>7</sup> Dual-process (or, dual-systems) approaches to psychological functioning typically contrast a relatively-automatic, fact-acting nonconscious experiential system with a relatively-controlled, slow-acting, conscious rational system (e.g., Epstein, 2003; Kahneman & Frederick, 2007; Lieberman, 2003; Metcalfe & Mischel, 1999).

<sup>8</sup> The schema system in the neuroperson model corresponds to what we have described elsewhere as the iconic representation system (Peck, 2007, 2016, 2018; Peck et al., 2019; Roeser et al., 2006; Roeser & Peck, 2009; Smith, McGovern, Peck, et al., 2016) and is similar to Barnard et al.'s (2007) *implicational meaning* system, Epstein's (2003) *experiential* system, Deutsch and Strack's (2006) *impulsive* system, Kahneman & Tversky's (1973) *intuitive* system, Bowlby's (1988) *working model* system, Baldwin's (1992) *relational schema* system, and Izard's (2009) *emotion schema* system.

<sup>9</sup> The belief system in the neuroperson model corresponds to what we have described elsewhere as the symbolic representation system (Peck, 2007, 2016, 2018; Peck et al., 2019; Roeser et al., 2006; Roeser & Peck, 2009; Smith, McGovern, Peck, et al., 2016) and is similar to Barnard et al.'s (2007) *propositional meaning* system, Epstein's (2003) *rational* system, Deutsch and Strack's (2006) *reflective* system, Kahneman & Tversky's (1973) *reasoned* system, Kosslyn & Pomerantz's (1977) *conceptual* system, Bruner's (1964) *symbolic* system, and Schultheiss's (2001) *verbal-symbolic* system.

<sup>10</sup> We use the term *primary appraisal* when referring to the first 300-400 milliseconds of the brain's processing of incoming sensory stimuli (i.e., before the nature of the stimuli can become objects of conscious awareness), and we use the term *secondary appraisal* when referring to the conscious processing of incoming sensory stimuli (and associated information) that becomes available to conscious awareness approximately 500 milliseconds after the initiating stimuli.