SPOTLIGHT ON: SOCIAL & EMOTIONAL INTELLIGENCE

A Preliminary Review of the Scientific and Scholarly Literature on Personal Transformation and its Relationship to Social Change

March 2021 | Gretchen Ki Steidle, Rachel Bellinger, Porter Nenon, Susan Patrice
INTRODUCTION

Global Grassroots is an international non-governmental organization (NGO), founded in 2004, which operates a mindfulness-based leadership program and social venture incubator for women survivors of war in East Africa. Over the last 15 years, we have invested deeply in the personal growth, inner leadership, wellbeing, hard skills, and the ideas of our change agents. We have witnessed their personal transformation as they have advanced their own solutions for the betterment of their community. We embarked upon this literature review to help us understand the link between personal transformation and social impact. The key question we were eager to answer through this review was: in what ways does the cultivation of human qualities such as mindfulness, agency, wellbeing, social intelligence, belonging or compassion contribute to a prosocial orientation and positively influence the advancement of positive social change?

We explored more than 370 key academic and scientific articles across the following five domains:

1. **Mindfulness**: “the capacity to pay attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994, p. 4).

2. **Wellbeing and Resilience**: Wellbeing is “a state of being…where human needs are met, where one can act meaningfully to pursue one’s goals, and where one enjoys a satisfactory quality of life” (ESRC Research Group on Wellbeing in Developing Countries, 2008, p. 4). Resilience is a positive adaptation despite adversity that leads to growth and greater well-being (Fleming & Ledogar, 2008; Luthar et al., 2000; Richardson, 2002).

3. **Social and Emotional Intelligence**: Emotional intelligence is the ability to be aware of our own and others’ feelings in the moment and use that information to inform one’s action in relationship (Goleman, 1995a; Salovey & Mayer, 1990). Social intelligence is “the ability to more deeply understand people by perceiving or experiencing their life situations and, as a result, gain insight into structural inequalities and disparities” (Segal, 2011, p. 266).

4. **Empowerment and Agency**: Empowerment is the ability to choose, including the existence of options and a capacity to make purposeful choices in a changing context where little power once existed (Alsop & Heinsohn, 2005; Kabeer 1999; Samman & Santos, 2003; Sidle, 2019).

5. **Community and Belonging**: A sense of community includes a feeling of belonging, a sense of mattering to the group, a feeling that needs will be met by shared resources, and having a shared emotional connection (McMillan & Chavis, 1986).

To answer this question, we need to understand how various domains of personal transformation are defined, what happens within individuals and community when it takes place, how it transforms the people who experience it, and what outcomes result that may be relevant. Over the course of six months, Global Grassroots conducted a review of scientific and scholarly research on the topic of personal transformation as it relates to societal transformation. For the purposes of this paper, we define:

**personal transformation** as the process and experience of undergoing positive inner change towards personal growth and self-realization. Personal transformation can take place as the result of intentional effort over time, as well as a significant life changing experience that shifts our beliefs about ourselves and our relationship with the world.

**social change or social transformation** as a significant and positive shift in the functioning and wellbeing of society. This can result from changes in societal norms and values; changes in the behavior, beliefs and relations of the members of that society; the alleviation of a social ill; and/or through alterations of the systems, institutions, and structures making up that society.
Social intelligence is the ability to more deeply understand people by perceiving or experiencing their life situations and, as a result, gain insight into structural inequalities and disparities.

It has been our empirical observation, as practitioners in the field of personal transformation and social change, and our theory from wide-reaching conversations in the social change sector that personal transformation is important for and takes place as an integral part of most long-term, sustainable, positive social change. But, it is not easy to measure these intangible experiences themselves, and there is little consensus on how to define the nature of personal transformation or the metrics with which to assess it. As such, there was a need to conduct a systematic review of the literature to help explain what is known about the process and experience of inner change and how it might be relevant to social change.

We explored a range of literature, including clinical studies, meta-analyses, literature reviews, analyses of scholarly discourse, reviews of measurement tools, proposed operational definitions and mechanisms, and working papers from practitioners. Our criteria included those studies that provided insight and critique on the definition, measures, mechanisms, outcomes, and potential evidence of the social impact of personal transformation.

We chose these five domains because they are the areas of personal transformation we have witnessed most on an ongoing basis and because there already exists a body of clinical work trying to understand the mechanisms and outcomes of each of them. We have undertaken this study at this time because there is a growth of interest in expanding from an exclusive focus on the external and concrete measures of social progress to including the contribution of more intangible, personal shifts towards long-term social change. Our contemporaries in the social justice and international development arena know that something is transpiring among the individuals and communities.
with whom they work. They believe that the internal condition of people matter, that relationships between them drive connection and community, and that their beliefs and values shape how institutions serve or disadvantage others - and change. Our approach and intention with this literature review, then, was to understand within each of these themes: the consensus definition of each concept; the documented mechanisms of such transformation; potential outcomes; measurement tools for and concerns with measuring each concept; future recommendations for research; and, the scientific and academic evidence for any relevance to social change.

Following are our general key findings and then the more specific review of literature within the domain of social and emotional intelligence.

**Key Findings**

Some of our key, cross-cutting findings from exploring this relationship include:

- There is little consensus on the definition, metrics and measurement methods for most domains of personal transformation, aside from the assessment of post-traumatic stress.
- There are a wide range of tools that have been developed for evaluating components of personal transformation, which can help begin to assess whether such transformation has taken place.
- Each domain is multi-faceted, usually involves a component of self-determination, and is context dependent. Tools can measure a range of elements, including self-assessed perspectives, observed behavior, neural activity, or external, material conditions. Therefore, no single tool is likely to be adequate on its own without deeper qualitative evaluation.
- Personal transformation is influenced by and has a direct impact on the nature of the community or external environment in which a person’s transformation occurs. As such, the relational field - connection to some form of community or a sense of belonging or relationship with another – is often critical, even for a process of individual, inner transformation.
- Personal transformation involves a fundamental change in the structure and functioning of the brain and physiology, resulting in a more positive orientation towards self and the surrounding world.
positive orientation towards self and the surrounding world.

- The domains of personal transformation reviewed have overlapping interrelationships and effects. Yet, the interpretation of data and outcomes are equally challenging. It is not always clear the directionality of impact between the personal, relational, and societal levels.

- The domains of mindfulness, wellbeing, social and emotional intelligence, empowerment and agency, and a sense of belonging and community help foster prosocial behavior (including helping, charitable altruism, concern, intrinsic motivation to act for the common good, and social communications.) This is influenced by the underlying capacities of self-awareness and self-regulation, compassionate understanding and connection with others, and developing a prosocial orientation for engagement. It is through this pathway that personal transformation is most likely to drive positive social change. Read more about this pathway in our conceptual map of how personal transformation results in the positive conditions for the advancement of social change.

- At this time though, there is little research documenting evidence that prosocial behavior itself translates into deep, systemic social transformation. This is likely largely due to the fact that most of the clinical research is conducted short-term in clinical settings versus the actual, practical application of personal transformation by practitioners in the social impact field that would allow us to see longer-term structural or systemic change.

In the following review, we focus on one individual domain of personal transformation, exploring its (a) history, (b) definitions, (c) any relevant practices and outcomes, (d) mechanisms, (e) measurement tools and approaches, (f) challenges with measurement, (g) future recommendations for research, and (h) applications for social impact. In a complementary text we propose a conceptual model for how the domains of personal transformation interrelate and influence social change, attempting to draw together from the evidence presented, a theoretical, operational model for this relationship. We have also compiled a sample list of the most commonly used measurement tools and a list of key studies for each topic. Finally, we share a survey of what actual organizations are finding from integrating inner work and personal transformation into the ways in which they deliver their social change programming. You may download this spotlight study here or access the full literature review here.

**Limitations**

There are limits to our exploration that we wish to acknowledge. Most of the clinical and scholarly study of these concepts that we were able to access through our search of known databases were predominately conducted by Western researchers in mostly clinical settings. More diverse studies, tools, and perspectives from the Global South and other less represented groups are needed for a comprehensive picture. Additionally, we would have liked to find more studies that focus on non-clinical applications among practicing organizations in the social change sector. We also know that our exploration could not possibly be exhaustive, given the explosion of works that have populated the field in the last decade. We acknowledge the risk that by emphasizing the inner shifts through this research, it might be inferred that concrete, material progress may not be necessary - that if someone finds happiness and life satisfaction, that they no longer need a pathway out of poverty. To the contrary, we believe that the most significant pathway towards long-term sustainable change requires the personal transformation that enables complex change on a deeper level. Our purpose through this initial work is to move the dialogue forward by assessing what is known and what more needs to be explored to understand and measure the relationship between personal transformation and social change.

**Gratitude**

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Spotlight on: Social & Emotional Intelligence

Emotional intelligence, social intelligence, social empathy, and social and emotional learning (SEL) are overlapping concepts increasingly accepted in western literature as key to effective leadership and lifelong success. There is a slight difference between these concepts, though they are related.

History of Social and Emotional Intelligence

In the 1920s, the concept of social intelligence was first proposed by Thorndike as a singular concept involving the “ability to understand and manage people” (Crowne, 2009, p. 151). Intelligence theorist Howard Gardner further refined the concept in the early 1980s with his proposal of multiple intelligences that included interpersonal and intrapersonal capacities; emotional intelligence capacities were a subset of social intelligence (Crowne, 2009; Pfeiffer, 2000). Building upon this early work, Peter Salovey and John Mayer (1990) are credited with helping coin the term Emotional Intelligence (EI), which Daniel Goleman later helped firmly establish in the mainstream as a valid and legitimate realm of intelligence with his best-selling book, Emotional Intelligence (1995a). Goleman (1995a) proposed that our success is dictated by how intelligently we act, which is driven by our capacity for both rational and emotional intelligence—two sets of mental activity that act as partners. In the years since, neuroscientists have been able to demonstrate more insights into the relationship between the emotional domain, rational decision-making, and leadership.

In 1994, a gathering was held at the Fetzer Institute to discuss strategies to support students’ social and emotional capacities, as well as their academic performance. The Fetzer Group introduced the term, Social and Emotional Learning as a conceptual framework to coordinate programming between schools, families and communities to address such goals among young people (Weissberg et al., 2015). It was at this convening that the Collaborative for Academic, Social, and Emotional Learning (CASEL) was established.

Definitions of Social and Emotional Intelligence

**Emotional intelligence (EI)** definitions tend to involve three components—(a) awareness of and the regulation of one’s emotions, (b) the perception and appraisal of another’s emotions, and (c) the use of both to inform one’s action in relationship. Daniel Goleman (1995a) defines EI as, “being able to rein in emotional impulse; to read another’s innermost feelings; to handle relationship smoothly.” (p xiii). Salovey and Mayer (1990) propose EI as, “the ability to monitor one’s own and others’ feeling and emotions, to discriminate among them and to use this information to guide one’s thinking and actions.” (p 189). Essentially, EI requires self-awareness to perceive and appraise one’s emotional state, the capacity to regulate one’s emotional state, empathy towards another’s emotional state, and the ability and willingness to integrate such understandings into adaptive responses (Salovey & Mayer, 1990).

Examples include our level of fear, sadness, anger, and joy, among other emotional experiences that influence our attunement to and empathy for others, motivation and persistence, impulse control and gratification delay, frustration tolerance, helpfulness, and mood regulation (Goleman, 1995a). People with high EI are better at using emotional information to achieve goals and solve problems (Kilgore et al., 2017). “Such individuals [with EI] should be perceived as genuine and warm by others, while individuals lacking these skills should appear oblivious and boorish.” (Salovey & Mayer, 1990, p 195).

**Social and Emotional Learning (SEL)** is more specifically defined as “the process through which children and adults understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.” (CASEL website, 2020)

This involves policy and program interventions utilized in education to support an increase in self-awareness and prosocial behavior, such as altruistic responses to suffering.

SEL has become a powerful force in transforming how youth education is approached today, though there is some debate about how much and for how long to practice SEL interventions (Ludvik & Eberhart, 2018). A 2011 meta-analysis of educational programs that
incorporate social-emotional learning revealed remarkable impact on youth academic performance, classroom behavior, decision-making, maturity, emotional stability, and motivation to learn (Durlak et al., 2011). Objectives for the outcomes of SEL programs include fostering skills and attitudes for personal development that enable positive relationships, effective and ethical decision-making, and caring and concern for others (Weissberg et al., 2015). Research also indicates that mindful compassion practices result in similar outcomes (Ludvik & Eberhart, 2018).

**Social Intelligence & Social Empathy:** Where *emotional intelligence* is the capacity to recognize and act on the emotions of self and other, and *social and emotional learning* is the process by which individuals develop certain skills and attitudes involving self-awareness and empathy which they apply to a whole range of competencies for self-regulation, relationships, and decision-making, *social intelligence* and *social empathy* involve our impact on others, often at a societal level. Social intelligence involves being socially aware and being able to get along with other people, including reading non-verbal cues, understanding social rules, decoding and being flexible and sensitive in different social situations and other interpersonal behavior for navigating successful relationships (Crowne, 2009). Thorndike defined social intelligence as involving both a cognitive component of understanding others and a behavioral component of acting wise in relationship (Frankovsky & Birknerová, 2014). Marlowe saw social intelligence also as the capacity to understand other people and their social interactions, and then to use this insight in positively influencing other people for mutual benefit (Frankovsky & Birknerová, 2014). Emotional Intelligence is an aspect of being socially intelligent, because to be able to understand and relate appropriately to others, you have to also draw upon a capacity to self-reflect, interpret and regulate emotion and behavior, and develop social skills to create and manage positive relationships (Crowne, 2009; Frankovsky & Birknerová, 2014). Socially intelligent behavior is generally considered prosocial, ethical and moral (Frankovsky & Birknerová, 2014).

Empathy and emotional attunement to others, along with other interpersonal capacities developed through SEL and as a part of emotional intelligence, can affect both an individual and the other’s brain chemistry (Goleman & Boyatzis, 2008). This, called social intelligence, results in “neural circuits (and related endocrine systems) that inspire others to be effective.” (Goleman & Boyatzis, 2008, p 3). Going further, the concept of social empathy was proposed as “the ability to more deeply understand people by perceiving or experiencing their life situations and as a result gain insight into structural inequalities and disparities” (Segal, 2011, p 266).

**Mechanisms of Social and Emotional Intelligence**

There are two kinds of emotional intelligence that are measured by researchers — *ability EI* — which includes one’s maximal performance with respect to their theoretical understanding of emotion and their cognitive capacities for perceiving and using emotional information, and *trait EI* — which involves subjective, self-perception and normal behaviors in social situations where emotion is relevant (Kilgore, et al, 2017; O’Connor et al., 2019).

Neural network activity differs between these two ways of understanding emotional intelligence (Kilgore et al., 2017). Emotional intelligence involves activation of several neural networks that are involved in emotion, perception, regulation, and decision-making (Kilgore et al., 2017; Ludvig & Eberhart, 2018). Any form of emotion regulation involves top-down regulation by the pre-frontal cortex (PFC) of the limbic system (Ludvig & Eberhart, 2018). These include the amygdala, insular cortex, ventromedial PFC, and ACC, many of which are also engaged through mindfulness practice (Bishop et al., 2004; Dahl et al., 2015; Davis & Hayes, 2011; Hölzel et al., 2011b; Isbel & Summers, 2019; Kilgore et al., 2017; Luberto et al., 2019; Ludvik & Eberhart, 2018). There is also little correlation between the mechanisms and outcomes of Trait EI and Ability EI (Brackett et al, 2006; Kilgore et al., 2017; Salovey, et al., 2009). More on these measures below.

Studying 54 adults, Kilgore et al. (2017) compared Trait EI and Ability EI for activity within four neural networks:

Researchers found no effects associated with Trait EI (Kilgore et al., 2017). They acknowledge that these findings on Trait EI are in contrast to Takeuchi et al.,
(2013) – a study in Japan of Trait EI involving younger participants, which was shown to activate the medial frontal cortex and ACC, responsible for self-knowledge, intuition, self-referential and autobiographical thought, and was anti-correlated with certain regions of the default mode network (DMN) and task positive network (TPN), an indicator of higher cognitive performance requiring more demanding attention and inhibitory control (Kilgore et al., 2017).

With Ability EI, researchers found there was no activation of Reward Learning or Self-Referential Processing Networks. But, the study found that Ability EI was significantly negatively associated with the connectivity of the BGN and the Posterior DMN (Kilgore et al., 2017). These are networks that involve emotion regulation processes such as threat assessment (amygdala), interoception of internal experience (insula), autobiographical memory recall (posterior cingulate), reward processing (ventral striatum) and behavioral control (lateral orbitofrontal cortex (OFC)) (Kilgore et al., 2017). This means that the capacity to reason about emotion information (ability EI), as opposed to just your perception of your emotional competencies (trait EI) is what is actually related to your assessment and regulation of emotional experience.

The findings suggest that someone with low Ability EI would have trouble separating their emotional experience from self-reflective processing (Kilgore et al., 2017). Further, participants with low Ability EI showed the strongest connectivity of the BGN between the vmPFC, anterior insula, amygdala (emotion regulation related to risk appraisal), and lateral OFC (emotion regulation related to reappraisal), suggesting low EI means difficulty regulating emotional experiences via cognitive control within the prefrontal regions (Kilgore et al., 2017).

One of the capacities of emotional intelligence is empathy. Empathy usually involves three mechanism: (a) perceiving and mirroring another person’s emotions, (b) perspective taking and making meaning of those emotions through the awareness of self and other, and (c) taking empathic action based on that information - a form of compassion (Gerdes & Segal, 2009; Segal, 2011). Emotional responses are largely controlled unconsciously by mirror neurons, which result in the automatic mimicking of another’s feelings as well as facial expressions and movements or gestures, giving us a felt sense of what someone else is experiencing (Goleman & Boyatzis, 2008; Segal, 2011). The other mechanisms involve voluntary cognitive effort in discerning a difference between self and other and managing emotions to avoid empathetic overwhelm (Segal, 2011).

Like empathy, social intelligence also engages mirror neurons as well as what has been called by neuroscientists, our “social guidance system” responsible for our intuition (Goleman & Boyatzis, 2008). This system is activated whenever we need to choose the best response among many choices, and involves the activation of neurons called spindle cells - owing to their size at four times other neurons - which help to transmit thoughts, beliefs, judgments, and feelings about people or situations more quickly to other parts of the brain (Goleman & Boyatzis, 2008). This helps us make split-moment decisions involving gut-level instincts around trust, for example (Goleman & Boyatzis, 2008).

Segal (2011) posits that empathy alone is not enough to guarantee moral action. But a deeper understanding of the context and personal experiences are necessary to catalyze social responsibility and action towards social justice (Segal, 2011). Because we are more likely to identify with those who are like us, empathy requires a foundation of strong personal values and a social justice lens to help overcome stereotyping and blaming of outgroups (Segal, 2011). As such, the framework for social empathy also has a three-part mechanism: (a) experiencing empathy, (b) gaining insight and knowledge about inequality and disparity, and (c) embracing and acting towards social justice (Segal, 2011).

“One way to enhance social empathy is through a three-tiered approach, developing exposure, explanations, and experiences with groups who are different from our own...At a minimum, we need to find ways for people from different groups—economic, political, social, racial, cultural, gender—to be exposed to each others’ living situations. Once we have promoted opportunities for cross-exposure, we can pursue opportunities for explanation. We can help people talk about their differences and what they mean and why they exist. Experience is the most impactful level.” (Segal, 2011, P 274).
In terms of social-emotional learning, there are five competence domains that are developed through SEL programs (CASEL website, 2020):

1. **Self-awareness**: The ability to accurately recognize one’s emotions and thoughts and their influence on behavior. This includes accurately assessing one’s strengths and limitations and possessing a well-grounded sense of confidence and optimism.

2. **Self-management**: The ability to regulate one’s emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.

3. **Social awareness**: The ability to take the perspective of and empathize with others; recognizing and appreciating individual and group similarities and differences; recognizing and using family, school, and community resources. This includes prosocial behavior, empathy, compassion and gratitude.

4. **Relationship skills**: The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed.

5. **Responsible decision making**: The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and contributing to the wellbeing of self and community.

SEL involves the concept of fluid intelligence, which is a form of learning that involves cognitive flexibility (taking into account another’s perspective or solving problems in multiple ways), working memory (recalling information and applying it meaningfully), and inhibitory control (redirecting attention after a distraction or impulse) (Ludvig & Eberhart, 2018). It works like this: In order for a student to engage in proactive emotion regulation, there is a series of mechanisms that take place: first they notice the emotional charge, then they use inhibitory control to pause and avoid reacting, then they use cognitive flexibility to make sense of the situation and the other’s perspective, then they can respond with greater self-regulation (Ludvig & Eberhart, 2018). This process is basically identical to the process of emotional regulation driven by mindfulness practice. This form of fluid intelligence is composed of two influential factors: temperament and personality, as well as positive, goal-oriented actions. The temperament and personality dimension of fluid intelligence includes traits like openness, grit, growth mindset, a sense of belonging and conscientiousness (Ludvig & Eberhart, 2018). Positive goal directed behavior includes actions such as self-control, proactive problem solving, emotional regulation, planning, prosocial goals, academic self-efficacy, positive future self, reflective learning and persistence (Ludvig & Eberhart, 2018). The internal capacities of self-regulation help lead to interpersonal competencies in understanding others and responding with adaptive behavior towards them (Ludvig & Eberhart, 2018).

### Measuring Social and Emotional Intelligence

Initial measures of emotional intelligence were catalyzed by the early interest in the concept catalyzed by Salovey, Mayer and Goleman’s research and writings. There are more than 30 different and frequently used measures of EI as of the date of this review, in part due to the commercial opportunities for developing such tests (O’Connor et al., 2019). Most explore participant’s perception and regulation of emotions in oneself and others and using emotions and emotional understanding purposefully (O’Connor et al., 2019).

The measurement tools that assess trait EI use self-report questionnaires that explore typical behavior related to emotion (O’Connor et al., 2019). Over a dozen approaches focus on trait EI, such as the Bar-On Emotion Quotient Inventory (Bar-On, 1997) which measures perceptions on handling relationships and other traits like optimism (Brackett et al, 2006; Pfeiffer, 2001). One study showed that trait EI predicts long-term career success and satisfaction (Kilgore et al., 2017; O’Connor et al., 2019).

Other instruments involve task-based tests of vari-
ous emotional capacities and abilities. The ability EI questionnaires require respondents to solve emotion-related problems to show they understand how emotions work (e.g., what emotion might you feel if you lost your wallet?) (O’Connor et al., 2019). Studies have shown that individuals with high ability EI tend to be better decision-makers and problem-solvers because of their increased capacities at perceiving and understanding emotions, and among children, there are associations with social competence (O’Connor et al., 2019). The task-based, ability questionnaires are better able to assess capacity on emotional tasks than the self-report, trait questionnaires previously used (Brackett et al., 2006; Kilgore et al., 2017; Salovey, et al., 2009). But, these measures do not predict typical behavior and are weak predictors of outcomes (O’Connor et al., 2019).

There are also a series of mixed EI tests that measure a combination of traits and emotional competencies, most often self-report as well as 360 degree assessments conducted by peers or colleagues, which are intended for workplace performance (O’Connor et al., 2019).

The Emotion Perception Tests (EPT, Mayer et al., 1990) attempted to measure emotional perception (Pfeiffer, 2001). A more comprehensive test, the Multifactor Emotional Intelligence Scale (MEIS, Mayer, Caruso, & Salovey, 1999), assesses and individual’s ability to perceive, express, understand, regulate, and use emotions to enable thoughts or other cognitive activity (Salovey, et al., 2009). The MEIS was further refined into the briefer Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) which has helped reduce the time needed for such a comprehensive four-part assessment (Salovey, et al., 2009). The MSCEIT has been deemed reliable and distinct from other measures of personality (Brackett et al., 2006). There is also the Self-Report Emotional Intelligence Test (SREIT, Schutte et al., 1999); the Trait Emotional Intelligence Questionnaire (TEIQue, Petrides and Furnham, 2001), the Bar-On Emotional Quotient Inventory (EQ-I 2.0, Bar-On, 2004) and the Emotional and Social Competence Inventory (ESCI, Boyatzis and Goleman, 2007).

SEL is hard to measure even if it is easy to define what the outcomes should look like and in what ways it can be cultivated (Ludvig & Eberhart, 2018). The interest in and proliferation of social and emotional learning programs has also exploded over the last two decades, with more than 500 studies of SEL programs (Weissberg et al., 2015). SEL outcomes are often measured through self-report surveys of students, educator observational assessments and scoring of simulated game-like scenarios to evaluate behavioral responses (Elias, 2019). There are tools that measure various aspects of SEL, including the temperament/personality dimensions as well as the positive, goal-directed behavior, including tools like the Growth Mindset Scale (Dweck, 2006), Grit Scale (Duckworth, 2007) among others (Ludvig & Eberhart, 2018).

A large-scale meta-analysis of 213 studies among more than 270,000 students verified that SEL programs result in positive outcomes (Weissberg et al., 2015). These include several benefits for the individual: academic achievement, self-awareness, emotional regulation, lower risk-taking and good decision-making, decreased stress, and positive attitudes such as self-efficacy, confidence, persistence, and a sense of purpose (Weissberg et al., 2015). SEL also has a positive impact on the ways students relate to others, including: perspective-taking, better relationships with peers and adults, prosocial behavior, empathy and feeling interconnected (Weissberg et al., 2015).

Social intelligence is usually measured through self-evaluation along three sets of capacities — social information processing, social skills and social awareness (Frankovsky & Birknerová, 2014). The psychometric approach towards social intelligence involves evaluating a person as high or low in a set of abilities, whereas the personality approach assesses behavior within a variety of interpersonal circumstances (Frankovsky & Birknerová, 2014). One such tool is the 21-item Tromsø Social Intelligence Scale (TSIS, Silvera, Martinnussen & Dahl, 2001), a self-report scale that evaluates social information processing, social skills and social awareness. The MESI Methodology (Frankovsky & Birknerová, 2014) is a 21-item self-report tool using the psychometric approach to evaluate social intelligence along three factors of manipulation, empathy, and social irritability.

See Appendix for a list of such instruments.
Challenges with Measuring Social and Emotional Intelligence

Overall, there is a lack of scientifically, objective measures of emotional intelligence (Pfeiffer, 2001). It is extremely challenging to measure emotion-focused questions of ability where there is no right answer or where it is difficult for experts to judge accuracy or distinguish between normal or optimal responses (O’Connor et al., 2019). The self-report, trait EI instruments do not provide levels of internal consistency or standardization, and almost none provide any data to back up the test developer’s interpretations of what the tests are designed to assess (Pfeiffer, 2001). Self-report surveys measuring trait emotional intelligence have tended to focus on a very wide range of psychological and personality constructs, are prone to bias related to social desirability, and are not easily validated or precise enough measures of exclusively emotional intelligence (Brackett et al., 2006; Kilgore et al., 2017; Pfeiffer, 2001; Salovey, et al., 2009). Further, like in the self-report measures of mindfulness, a person’s level of emotional intelligence may also distort their ability to assess their own EI; individuals with low EI may not have the capacity to accurately self-assess, while those with high EI may overestimate the EI of others (Brackett et al., 2006; O’Connor et al., 2019).

In contrast, the ability EI assessments that do not use self-report questionnaires cannot be manipulated, as they seek to measure maximal performance (O’Connor et al., 2019). But they have challenges with reliability and validity (O’Connor et al., 2019). Ability-based measures of emotional intelligence seem more promising for assessing theoretical emotion understanding, such as determining the competencies of professionals in decision-making and negotiating (O’Connor et al., 2019; Salovey et al., 2009). But trait EI measures are better predictors of typical behavioral, such as stress coping styles in adults and children (O’Connor et al., 2019). Overall, O’Connor et al. (2019) recommend the Trait Emotional Intelligence Questionnaire (TEIQue, Petrides and Furnham, 2001) as the best comprehensive measure of trait EI and the Caruso Emotional Intelligence test (MSCEIT, Mayer, Salovey, Caruso, 2002a,b, 2003) as the best tool for measuring ability EI.

More research is needed into the process by which emotional intelligence works within interpersonal relationships and a social context (Brackett et al., 2006). For example, emotional intelligence may be impacted by the quality of relationships, gender, collaborative experiences, cultural context, inequitable power dynamics, or the influence of mood on social interactions (Brackett et al., 2006; Salovey et al., 2009). Further, it is unclear how individual capacities that contribute to emotional intelligence, such as emotional regulation or perception, influence social functioning (Brackett et al., 2006). Because emotional intelligence involves both self-awareness, subjective perceptions as well as behavioral capacities, utilizing some form of both trait and ability-based EI measures will provide the most comprehensive assessment of emotional and social intelligence (Kilgore et al., 2017).

In terms of SEL programs, like mindfulness practices, there is no consensus on what activities these should entail, how long they should be utilized and how to measure the impact (Ludvig & Eberhart, 2018). Additional research is needed to understand the key drivers of successful outcomes among environmental factors (e.g., classroom, teachers, community, etc.), student capacities (e.g., emotional regulation, decision-making, etc.), age, and ethnic and cultural contexts (Ludvig & Eberhart, 2018; Weissberg et al., 2015). It is also important to understand any differing priorities between assessment developers, researchers, educators, and mental health professionals which may influence programs, assessments and reported outcomes (Elias, 2019). Within the SEL field, self-report is also a frequent technique, which presumes students have enough emotional intelligence to be able to monitor and report on their social and emotional learning, and may also involve bias when students respond according to how they would like to be perceived by teachers (Elias, 2019). Educators or independent third-parties can also provide assessments, which may prompt “best behavior” distortions, and may also be biased in their capacity to subjectively rate the internal experience of students, such as students’ levels of empathy (Elias, 2019). Simulated scenarios are a third assessment method, but may lack accuracy due to the lack of authentic circumstances and because they do not account for the influence of the context or background of students, such as age, gender or culture (Elias, 2019).
Future Recommendations for Research
For future research and programs involving the contribution of social and emotional intelligence towards social change, there are a few important recommendations:

- Utilizing a combination of trait and ability measures of social and emotional intelligence may provide additional insights (Brackett et al., 2006; Kilgore et al., 2017; Pfeiffer, 2001; Salovey, et al., 2009).
- It is suggested that practitioners use the TEIQue or MSCEIT, currently the most reliable measures of emotional intelligence, but any measure used should have good evidence of reliability and validity in multiple studies (Brackett et al., 2006; O’Connor et al., 2019).
- More research is needed to evaluate the role of gender, relationships, cultural context, power dynamics and other interpersonal relationships on emotional intelligence, and to determine how emotional intelligence influences social functioning (Brackett et al., 2006; Salovey et al., 2009).
- Similarly, for SEL programs, additional research is needed to understand the influence of learning environment factors, student capacities, cultural contexts, program priorities, and potential bias in evaluation methods, which may distort findings (Elias, 2019; Weissberg et al., 2015).
- When investigating the drivers of prosocial behavior, it is important to consider the influence of internalized principle of care vs. empathy and to ensure altruistic and universalist approaches to helping to avoid egoism and bias towards in-groups (Wilhelm and Bekkers, 2010).
- More studies that confirm theories that increased levels of emotional intelligence result in more social intelligence and prosocial behavior that then fosters greater social impact.

Applications of Social and Emotional Intelligence for Social Impact
Social intelligence and social empathy - arising from our emotional intelligence, prosocial perspectives and behavior from SEL programs, along with an understanding of structural inequity - can lead to action that can benefit positive social change (Segal, 2011). With an accurate understanding of the needs, conditions, and perspectives of others, and an understanding of the context of structural disparities, people are more inclined to feel and act socially responsible (Segal, 2011). According to Segal (2011) this may be due in part to the experience of empathy and moral values that drives cooperation.

Dispositional empathetic concern is a determinant of prosocial behavior. Also significant is a moral orientation towards helping behavior, otherwise known as the “principle of care”, stemming from an internalized value that helping is good and right and one should help someone in need (Wilhelm & Bekkers, 2010). In a study of 2680 people across 10 types of helping behavior, Wilhelm and Bekkers (2010) found that such an internalized value towards helping others was more consistently associated with helping behavior than just empathy, especially with out-groups. While empathetic concern is still a driver of helping behavior, its influence is less significant when the principle of care is eliminated (Wilhelm and Bekkers, 2010). Without an internalized value towards helping, empathetic concern was only supportive of spontaneous assistance involving contact with a person in need, but was not a driver of helping that involved longer-term planning for an abstract population (Wilhelm and Bekkers, 2010). Further, the principle of care was associated with helping that was purely altruistic versus egoic, where behavior is instead driven by guilt or the anticipation of feeling good about such actions (Wilhelm and Bekkers, 2010). For example, studies of those who rescued or did not rescue Jews during the Holocaust, found that rescuers speak of care in universal principle terms (Wilhelm and Bekkers, 2010). Because the principle of care is an internalized value, it is important to understand when and how it is fostered, including through parents and other institutions like schools, especially during adolescence when the internalization of values is most likely (Wilhelm and Bekkers, 2010). This suggests that the elements of SEL programs that foster prosocial helping behavior as a result of cultivating empathy, social awareness, responsible decision-making, and relationship skills are of critical importance in reinforcing principle of care values.
SDG Goal 4 is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UN, 2020). Target 4.7 says that by 2030, “all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development (UN, 2020). To foster the SDG notion of global citizenship, this requires a sense of belonging with greater humanity, which is built upon empathy, knowledge about others, shared values, respect for diversity, and social responsibility (Ludvig & Eberhart, 2018). Social and emotional intelligence may, then, be a necessary force that supports movement towards the Sustainable Development Goals. In the following table, Ludvig and Eberhart (2018, p. 12) mapped all the SEL outcomes and mindful compassion practices to the specific SDG outcomes and appropriate measurement tools:

<table>
<thead>
<tr>
<th>SEL Outcome</th>
<th>Specific MCPs</th>
<th>Related SDG 4.7 Outcomes</th>
<th>MCP Assessment Measures/Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>Focused breathing; Meta-attention; Open attention; Mindful meditation; Mindful listening; Who am I Meditation</td>
<td>Develop intrapersonal and interpersonal skills</td>
<td>Pre- and Post-FFMQ; Pre- and Post-MAAS; Observation; Interview; Journaling</td>
</tr>
<tr>
<td>Self-Awareness; Self-Management</td>
<td>All of the above plus: Empathetic listening; Focused movement with breath; Body scan; Movement in nature; Journaling; SBNRR meditation</td>
<td>All of the above plus: Cultivate good relationships with diverse individuals and groups</td>
<td>Pre- and Post-FFMQ; Pre- and Post-MAAS; Observation; Interview; Journaling Pre- and Post-Beck; Pre- and Post-PSS</td>
</tr>
<tr>
<td>Self-Awareness; Self-Management; Social Awareness; Relationship Skills</td>
<td>All of the above plus: Is this true reflection; Cognitive reappraisal; Task-switching; Just like me/Common humanity meditation; Unwelcomed and welcomed emotions meditation; Loving kindness meditation; Generating goodness meditation; Resilience meditation; Who would I be reflection; Compassion journaling</td>
<td>All of the Above plus: Distinguish between sameness and difference and recognize that everyone has rights and responsibilities; Recognize how we fit into and interact with the world around us</td>
<td>Pre- and Post-FFMQ; Pre- and Post-MAAS; Observation; Interview; Journaling Pre- and Post-Beck; Pre- and Post-PSS; Pre- and Post-PECTDI; Problem solving case study analysis; Action planning; Communication planning; 360-degree evaluations</td>
</tr>
<tr>
<td>SEL Outcome</td>
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<tr>
<td>Self-Awareness; Self-Management; Social Awareness; Relationship Skills; Responsible Decision-making</td>
<td>All of the above plus: Dyad dialogue; Group discussion; Alignment of experience with personal and professional goals and values; Insight meditation; Creative expression; Nature encounters; Nutrition encounters; Well-being exploration; Difficult conversation exercises</td>
<td>Develop and apply values, attitudes, and skills to manage and engage with diverse groups and perspectives; Examine different levels of identity and their implications for managing relationships with others; Critically examine ways in which different levels of identity interact and live peacefully with different social groups; (replace “debate on” with “explain”) Benefits and challenges of difference and diversity</td>
<td>Pre- and Post-FFMQ; Pre- and Post-MAAS; Observation; Interview; Journaling Pre- and Post-Beck; Pre- and Post-PSS; Pre- and Post-PECTDI; Problem solving case study analysis; Action planning; Communication planning; 360-degree evaluations; Portfolio; Brief Resilience Scale; Strategic planning; Change planning; Professional development planning; Vision statement</td>
</tr>
<tr>
<td>Self-Awareness; Self-Management; Social Awareness; Relationship Skills; Responsible Decision-making</td>
<td>All of the related category goals plus: Self-compassion letter writing; Self-compassion non-verbal reflection; Compassion journaling</td>
<td>Illustrated differences and connections between different social groups; Compare and contrast shared and different social, cultural, and legal norms; Using compassion – demonstrate appreciation and respect for difference and diversity, cultivate empathy (replace “offering kindness” for “solidarity” as we don’t teach that compassion means agreement with) towards other individuals and social groups; Critically assess connectedness between different groups, communities and countries; Distinguish between personal and collective identity and various social groups and cultivate a sense of belonging to a common humanity</td>
<td>All of the related category goals plus: Neff SCS; Jazaieri Compassion Scale</td>
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</table>
If the development of emotional intelligence is based on self-awareness, emotion regulation, perspective-taking and appraisal, (Gerdes & Segal, 2009; Goleman, 1995a; Goleman & Boyatzis, 2008; Salovey & Mayer, 1990), then one-way emotional intelligence can be fostered if mindfulness, given mindfulness also cultivates these capacities (Bishop et al., 2004; Dahl et al., 2015; Davis & Hayes, 2011; Hölzel et al., 2011b; Isbel & Summers, 2019; Luberto et al., 2019). We know that mindfulness and emotional intelligence both contribute to empathy and compassion, which in turn leads to prosocial behavior (Goleman & Boyatzis, 2008; Segal, 2011; Weissberg et al., 2015). But we also know that helping behavior that goes beyond a spontaneous, empathetic response and a more fully-developed social justice orientation also requires (a) an understanding of the context of social inequity and (b) strong, internalized values towards beneficial action (Segal, 2011; Weissberg et al., 2015; Wilhelm & Bekkers, 2010). SEL programs, especially during adolescence when such internalized values are established, can then be significant in driving prosocial behavior that can contribute to advancing social change (Wilhelm & Bekkers, 2010). This includes outcomes from the SEL capacities of social awareness, relationship skills and responsible decision-making that result in feeling connected, helping behavior, empathy and gratitude, active listening, cooperating, negotiating conflict constructively, ethical choices, and contributing to the wellbeing of all (CASEL, 2020; Weissberg et al., 2015).

**Conclusion**

Through this preliminary literature review of the scientific and scholarly writing on personal transformation, we have explored the existing knowledge and challenges of defining, measuring and understanding the mechanisms and outcomes of some of the more intangible aspects of human nature. Despite a lack of consensus on the precise definitions and metrics that would adequately capture all aspects of personal transformation, evidence suggests that it involves a process of self-development with a range of positive outcomes. The five domains of personal transformation reviewed tend to work through a five-part pathway to influence prosocial outcomes and potentially social change: (1) Mindfulness and emotional intelligence build the self-awareness and self-knowledge that enable us to (2) move into a place of greater self-regulation. From this process of inner growth, we find greater agency and wellbeing, and (3) develop the capacity to understand others more completely. As we continue to invest in our inner development and relationships, we (4) find deeper connectedness and engage positively with others. As we continue to foster mindfulness, social and emotional intelligence, and a sense of belonging and/or community, we (5) cultivate the foundational prosocial orientation that motivates us to act on behalf of the common good. While the existing research reviewed does not yet demonstrate a direct, causal link between prosocial behavior and positive systemic change, we propose that personal transformation creates positive conditions for the advancement of social change as mindfulness, social intelligence, belonging, and agency combine to drive altruistic action towards greater collective wellbeing. We have outlined the details of this proposed conceptual model for the interrelationships between personal transformation, prosocial behavior and social change in an accompanying paper. Additional research, especially in non-clinical settings, is still necessary to determine whether and how prosocial behavior results in systemic social transformation. For now, we hope that this review engenders greater dialogue about what is known and what more needs to be explored to understand more deeply the relationship between personal transformation and social change.


SOCIAL & EMOTIONAL INTELLIGENCE MEASUREMENT TOOLS

The following table contains an index of some of the more common tools used to measure this domain of personal transformation and its subcomponents.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Author</th>
<th>Description and Note</th>
<th>Link to Find Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multifactor Emotional Intelligence Scale</td>
<td>MEIS, Mayer, Caruso, &amp; Salovey, 1998, 1999</td>
<td>First comprehensive theory-based tool for measuring EI as a set of abilities. Includes 12 ability measures divided into four areas (a) perceiving and expressing emotions; (b) using emotions to facilitate thought; (c) understanding emotions; (d) managing emotions in self and others.</td>
<td><a href="http://ei.yale.edu/wp-content/uploads/2014/02/pub231_Salovey_Woolery_Mayer_2001.pdf">http://ei.yale.edu/wp-content/uploads/2014/02/pub231_Salovey_Woolery_Mayer_2001.pdf</a></td>
</tr>
<tr>
<td>Mayer, Salovey, and Caruso Emotional Intelligence Scales</td>
<td>MSCEIT, Mayer, Salovey, &amp; Caruso, 2002a,b, 2003</td>
<td>A refined and better normed successor to the MEIS, still measures the same components but in less time and with better worded questions. Recommended as the best test for measuring ability EI.</td>
<td><a href="https://storefront.mhs.com/collections/msceit">https://storefront.mhs.com/collections/msceit</a></td>
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<tr>
<td>Trait Emotional Intelligence Questionnaire</td>
<td>TEIQue, Petrides and Furnham, 2001</td>
<td>Recommended as the best comprehensive measure of trait EI.</td>
<td><a href="http://www.eiconsor-tium.org/measures/teique.html">http://www.eiconsor-tium.org/measures/teique.html</a></td>
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<tr>
<td>Emotional and Social Competence Inventory</td>
<td>ESCI, Boyatzis and Goleman, 2007</td>
<td>The ESCI measures the demonstration of individuals’ behaviors, through their perceptions and those of their raters, making it distinct from measures of EI that assess ability or personality preferences.</td>
<td><a href="http://www.eiconsor-tium.org/pdf/ESCI_user_guide.pdf">http://www.eiconsor-tium.org/pdf/ESCI_user_guide.pdf</a></td>
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<td>MSKI Methodology</td>
<td>Frankovsky &amp; Birknerová, 2014</td>
<td>A 21-item self-report tool using the psychometric approach to evaluate social intelligence along three factors of manipulation, empathy, and social irritability</td>
<td><a href="https://www.researchgate.net/publication/271341301_Measuring_Social_Intelligence-The_MESI_Methodology">https://www.researchgate.net/publication/271341301_Measuring_Social_Intelligence-The_MESI_Methodology</a></td>
</tr>
<tr>
<td>Classroom Assessment Scoring System</td>
<td>CLASS®, Pianta</td>
<td>An observational tool to measure SEL in schools, assessing the quality of teacher-student interactions that supports children’s learning and development.</td>
<td><a href="https://teachstone.com/class/">https://teachstone.com/class/</a></td>
</tr>
<tr>
<td>CDC’s Youth Risk Behavior Surveillance Survey</td>
<td>YRBSS, Ludvik &amp; Eberhart, 2018</td>
<td>Monitors six types of health-risks behaviors that contribute to the leading cause of death among youth</td>
<td><a href="https://www.cdc.gov/healthyyouth/data/yrbs/questionnaires.htm">https://www.cdc.gov/healthyyouth/data/yrbs/questionnaires.htm</a></td>
</tr>
<tr>
<td>Growth Mindset Scale</td>
<td>Dweck, 2006</td>
<td>A 3-item scale to measure if people believe that can get smarter if they work at it.</td>
<td><a href="http://sparqtools.org/mobility-measure/growth-mindset-scale/">http://sparqtools.org/mobility-measure/growth-mindset-scale/</a></td>
</tr>
<tr>
<td>Grit Scale</td>
<td>Duckworth, 2007</td>
<td>A 12-item scale to measure trait-level perseverance and passion for long-term goals.</td>
<td><a href="https://angeladuckworth.com/grit-scale/">https://angeladuckworth.com/grit-scale/</a></td>
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</tbody>
</table>
SOCIAL & EMOTIONAL INTELLIGENCE ESSENTIAL STUDIES

Following are a selection of key studies that help define this domain of personal transformation, provide an assessment of tools for its measure, or provide insights on its relevance to social change.

<table>
<thead>
<tr>
<th>Study</th>
<th>Citation</th>
<th>Summary</th>
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<tbody>
<tr>
<td>The Measurement of Emotional Intelligence: A Critical Review of the Literature and Recommendations for Researchers and Practitioners.</td>
<td>O’Connor, P.J., Hill, A., Kaya, M, and Martin, B. (2019, May 28). The Measurement of Emotional Intelligence: A Critical Review of the Literature and Recommendations for Researchers and Practitioners. Frontiers in Psychology, 10(1116). Doi: 10.3389/fpsyg.2019.01116.</td>
<td>In this paper O’Connor et al. seek to provide guidance to researchers and practitioners seeking to utilize EI in their work. They first provide an overview of the different conceptualizations of EI. They then provide a set of recommendations for practitioners and researchers regarding the most appropriate measures of EI for a range of different purposes. They provide guidance both on how to select and use different measures of EI. They conclude with a comprehensive review of the major measures of EI in terms of factor structure, reliability, and validity.</td>
<td><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6546921/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6546921/</a></td>
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<td>Emotional Intelligence</td>
<td>Salovey, P. and Mayer, J.D. (1990) “Emotional Intelligence,” Imagination, Cognition and Personality, Vol. 9, No. 3, pp.185-211</td>
<td>This article presents a framework for emotional intelligence, a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one’s life.</td>
<td><a href="https://doi.org/10.2190/DUGG-P24E-52WK-6CDG">https://doi.org/10.2190/DUGG-P24E-52WK-6CDG</a></td>
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