

Transforming Education through Scientifically Rigorous Intervention Approaches: A Call for Innovations in the Science of Emotional Intelligence

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The societal benefits of a high quality education that develops the whole child are many. The costs of failing to do so are devastating. In drafting an innovative research agenda for 2020 and beyond, we urge the Directorate to focus on constructing and testing strategies to improve the quality of education in our nation. The economic and productive future of the nation is at grave risk if the education system fails its children, educators, families, and communities. Scientific innovation is dependent on profound transformation in the nation's schools.

Transforming the nation's educational systems requires innovations in science. Accumulating evidence suggests that addressing and nourishing the social and emotional needs of children within the context of education contributes to their academic and life success, and to their ability to contribute to society as productive citizens. Attending to the development of students' emotion skills also necessitates superior pre-service training and professional development for educators. Teachers' emotion skills impact their stress and burnout levels, which, in turn, impact the quality of their teaching. Moreover, these skills in teachers influence student conduct, engagement, attachment to school, and academic performance. Innovative, emerging research focused on creating and testing effective strategies for promoting positive development of the whole child include changing learning environments and providing skill-building opportunities for all stakeholders, especially those in positions to cultivate children's cognitive, social, and emotion skills.

People experience emotions in nearly all aspects of life. Decades of research in affective science support the claim that emotions have adaptive value in preparing humans to respond to changes in the environment. Emotions impact attention, motivation, memory, learning, decision making, and social relationships. However, unless emotions are recognized and regulated effectively, their influence may promote maladaptive behaviors—such as violence, bullying, self-injury, and drug use—that put the health and well-being of children and adults in jeopardy.

Emotional intelligence (EI) theory puts forth the proposition that emotion skills—including recognizing the experience and expression of emotion in the self and others, understanding the causes and consequences of emotion, and regulating emotions to promote personal growth and positive interactions—are critical for humans to act on emotions adaptively. EI refers to the capacity of individuals to process emotions to guide thinking and actions, and to enhance reasoning and decision making. Developmentally appropriate emotion skill building provides opportunities for children and adults to learn to process and use emotions intelligently. The scientific evidence supporting the tenets of EI theory is burgeoning, as is the evidence that the skills subsumed under the EI rubric can be taught and developed with well-designed training programs. This field has strong potential to inform, shape, and enhance education practices.

To move from infancy to maturity, the EI field requires a place on the Directorate's scientific agenda. Large grants are needed to fund (1) the accumulation of large data sets that

include observational and survey data that is both longitudinal and diverse in its sampling, (2) research centers to both train graduate students to be the next generation of EI scholars and build pioneering assessment tools that measure complex and dynamic phenomena like group behavior, real-time application of knowledge and skills, and emotional experience, and (3) laboratory or “test” schools to explore best practices in developing emotion skills in students and educators. To advance the field, we recommend three lines of research for inclusion on the 2020 scientific agenda.

1. What is the relevance of EI to the development of children and youth and the productivity of society? What are the best methods for assessing EI and testing its importance in daily life?

EI is a mental ability that can be measured much like traditional intelligence. The use of performance tests for measuring EI is preferred to self-report scales. Performance tests are considered the “gold standard” because they tap individuals’ knowledge and mental capacity as opposed to attitudes and beliefs about their own knowledge and abilities, which are usually biased. Measuring EI as a mental ability also makes it possible to both operationalize the construct distinctly and assess its unique contribution to important life outcomes.

The field currently relies on a small number of assessments that capture one or a few components of EI such as the perception of emotion and the regulation of emotion. To date, there exists only one assessment tool that measures EI as a comprehensive set of skills. Research employing this comprehensive tool is encouraging. Findings indicate that EI is not the same as general intelligence or personality traits, and that it is an important predictor of psychological outcomes and behavior above and beyond existing measures of verbal intelligence and personality traits. Among diverse samples of adolescents, college students, and working adults, EI has been associated with cognitive and social functioning, psychological well-being, psychopathology, academic performance, and leadership and other behaviors in the workplace.

To understand the function of EI, more sophisticated tools enabling real-time skill assessment need to be constructed and tested and made available to scientists. Developmentally appropriate assessment tools, if made available for individuals across the life course (from infancy to adulthood), would further the differentiation between fluid (innate capacity) and crystallized (learned or knowledge-based) aspects of EI. Findings would help to (1) unpack which aspects of EI are genetic versus acquired through experience, (2) examine associations between EI and temperament and personality, (3) identify which emotion skills can be improved and developed with formal training, and (4) specify the emotion skills (or lack thereof) that put individuals at risk for undesirable and harmful life outcomes, such as poor academic achievement, psychopathologies, and proclivity to risk-taking behaviors.

2. How can the emotion skills associated with EI be cultivated with experience and formal training? How will the development of emotion skills develop the whole child and prevent maladaptive outcomes?

How educators and students process and respond to their emotions influences schools in ways that develop the whole child. A recent meta-analysis shows that a systematic process for promoting social and emotional development is the common element among schools that report

an increase in academic success, improved quality of relationships between teachers and students, and a decrease in problem behavior. The impact is especially powerful when interventions are grounded in theory and empirical evidence. In our laboratory, we have developed and tested in a randomized control trial a program called, The RULER Approach (“RULER”). RULER is grounded in EI theory and science, and its application results in significant shifts in social, emotional, and academic competencies as well as improvements in the quality of the learning environment. Widespread efforts to develop and enhance processes that build the capacity of children and youth to acquire emotion skills are warranted and overdue.

This research area aligns with leading economists in our nation who are calling for a greater focus on what have been traditionally referred to as “soft” skills. Nobel Laureate, James Heckman, has written that the greatest returns on education investments are “from nurturing children's non-cognitive skills, giving them social, emotional and behavioral benefits that lead to success later in life...” He argues that investing in emotion skills is a cost-effective approach to increasing the quality and productivity of the workforce through fostering workers’ motivation, perseverance, and self-control. We could not agree more. The advancement of the science of EI and emotion skill building is a prerequisite to move forward with such intervention efforts.

The incidence of emotional disturbances among our nation’s young people is widespread. Children are prescribed antidepressants today more than ever before. Indeed, approximately one in five youth experience problems with anxiety or depression—and these rates are rising. If not prevented or if left untreated, emotional disturbances disrupt their successful development and ability to contribute to society. For example, youth with a history of anxiety and depression are more likely to engage in risky and maladaptive behaviors, such as using illicit drugs, bullying classmates, withdrawing from friends, and disconnecting from school. These behaviors are problematic to society at large, threatening the physical and psychological health of both the youth themselves as well as those around them.

Children with more developed emotion skills are more ready for school, tend to experience more positive emotions, and have higher psychological well-being than their less skilled peers. These children are more aware of what causes different emotions and are able to choose effective regulation strategies that help them to be more self-confident and self-accepting, and to feel that they are in greater control of their own lives and the environment. In contrast, children and youth with less emotion knowledge and less developed skills are more likely to use substances like drugs or alcohol, engage in violent behaviors, and suffer from anxiety or depression.

The academic, social, and personal correlates of EI are mutually reinforcing and prevention efforts that include skill building help to facilitate the meeting of long-term societal expectations for education, including character, responsibility, and citizenship. In these ways, nurturing the development of the skills associated with EI has the potential to foster a more productive future for society at large.

3. How can learning environments be created or changed to develop the whole child?

Schools promote academic engagement and achievement when they are empowering, safe, orderly, challenging, collaborative, and supportive of all students—research shows that

these qualities of the classroom are critical predictors of student success. Children are more likely to develop and thrive in such environments. The creation of such positive learning environments does not happen by chance, however; it happens as a result of educators and school leaders who are skilled and knowledgeable about how students learn and the conditions under which they succeed. Observe any classroom, and it is immediately apparent that students' daily experiences are saturated with emotions ranging from frustration to loneliness to interest to boredom. These emotions fill the experiences of their teachers, principals, and family members as well. The ability (or lack thereof) to manage the gamut of human emotions can foster (or thwart) academic engagement and achievement, the building of mutually supportive relationships with adults and peers, and problem solving. There is a dearth of high quality professional development for teachers and school leaders to simultaneously develop their own emotion skills and become proficient at helping students to develop such skills.

The science of EI needs to guide the training of school leaders and teachers to the benefit of children and youth. Professional development efforts need to include the science of emotion and its impact on attention, motivation, judgment, and decision making so that educators can effectively foster the development of children and youth. Specifically, interdisciplinary efforts are needed to train school leaders and teachers on both how to teach and how to instill and model emotion skills so that students are ready and motivated to learn and able to apply emotion knowledge and skills within and beyond the walls of the classroom. Our nation's children then will have the opportunity to thrive academically, socially, and psychologically, and develop into compassionate citizens who contribute meaningfully to society.

The research areas outlined in this White Paper require interdisciplinary efforts from many fields, including psychology, neuroscience, education, public health, and economics. Currently, some of the scientific leaders involved in provocative research in this field include (in alphabetical order): J. Lawrence Aber, Lisa Feldman Barrett, Marc Brackett, Russell Carson, Richard Davidson, Susanne Denham, Nancy Eisenberg, Mark Greenberg, Carroll Izard, Stephanie Jones, John Mayer, Robert Pianta, Reinhard Pekrun, Susan Rivers, Richard Roberts, Peter Salovey, Paul Schutz, Rosemary Sutton, Ross Thompson, and Roger Weissberg. The laboratories directed by these individuals put forth cutting-edge science related to EI.

We implore the Directorate to give serious attention to the science and practice of EI. The time has come to restore balance in our nation's schools and classrooms by investing in research focused on EI. In doing so, the Directorate and its research agenda will be using scientific innovations to help children reach their fullest potential.

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