Promoting Youth Well-Being Through Health and Education: Insights and Opportunities
RR.5.2019

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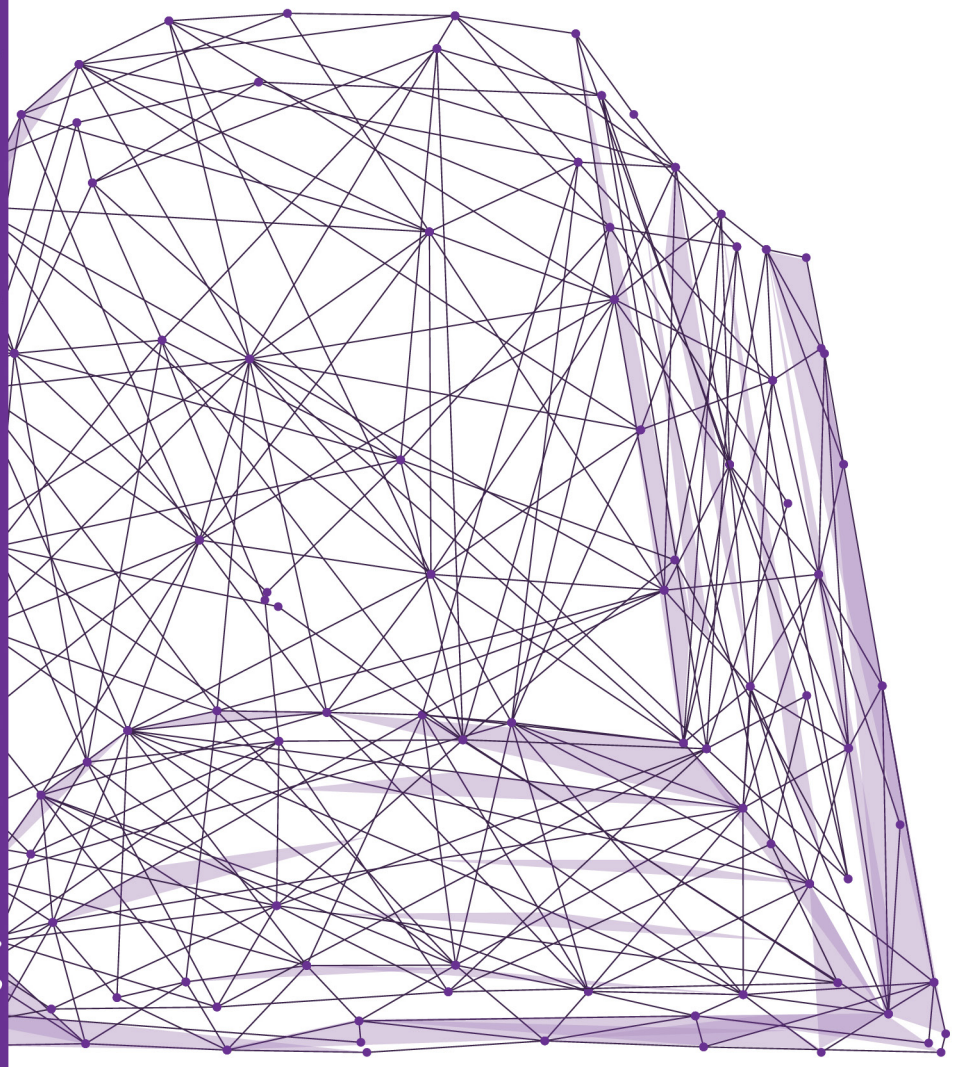

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Foreword

Foreword

True well-being, according to the classical thinkers and philosophers, could be reflected in a person's rich spiritual life, strong character shaped by education, and a healthy and active body. While the obvious benefits of well-being in conventional education systems is long acknowledged, its meaningful integration in school curricula has lacked effective game plans and the commitment of all stakeholders. Thankfully, the integration of well-being with education continues to gain recognition among educators and policymakers; well-being calls on us to bring the full self into play in our education and suggests a more inclusive and balanced expression of human achievement. For youth facing a multitude of life stressors that distract them from academics, the benefits of enrollment in active, exciting learning environments can be transformative. The clear challenge is to identify ways to effectively embed the benefits of well-being in curricula and to enroll policy makers and communities in success.

Over the past several years, Qatar Foundation's sister initiatives –WISE and WISH— supported by their various communities, have together built a synergy in focus on an open, multi-sectoral approach to innovation and transformation in education and health spaces. In this WISE Report, our colleagues at the RAND Corporation review a range of policies and programs in several diverse communities or nations, intended to engage young people in curricula that integrate academics with well-being.

The authors have developed frameworks designed to inform effective policies. They consider key concepts of well-being in education, including theories of intelligence and personality, mindfulness, social and emotional learning, supporting teacher-student relationships, and others. The frameworks reflect much of recent creative thinking on effective teaching, classroom routines, and the untapped benefits of community engagement. The authors have applied these frameworks to assess impacts across individual, district, and greater community levels. Interviews provide frank insights on the impact of programs and support the authors' recommendations for ongoing revisions and iteration across the learning communities presented in the case study examples.

This report contributes to a broadening field of inquiry that is dissolving the 'silo' separation of education and health fields, encourages all stakeholders to collaborate, and allows new voices in holistic approaches that offer improved academic achievement to be heard. The authors find that more collaboration is needed to erode barriers to systemic change. They acknowledge the difficulty of meaningfully comparing and evaluating the effectiveness of such a wide array of policies and interventions with their many priorities, approaches, and unique challenges. Yet for those who are open to exploring new perspectives, the frameworks elaborated here are valuable tools for committed educators and advocates. They invite all stakeholders to join exciting adventures in helping our youth discover and reach for their dreams.

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World Innovation Summit for Education (WISE)

EXECUTIVE SUMMARY

Putting well-being at the heart of planning, policy making, and resource allocation is emerging as critical to the development of thriving communities and nations. We examined the academic and grey literature to identify theoretical frameworks that integrate health and education. We identified and described policies and programs supporting well-being around the world, and interviewed experts from each location to gain a deeper understanding of them. The report found that although well-being frameworks that integrate education and health exist, few of them have been examined rigorously to reveal how ***both*** educational and health outcomes can be achieved together. We found that promoting youth well-being was a priority in all the case studies, but that the integration of policy and action varied greatly in effectiveness. Findings from analysis of the frameworks and case studies suggest a variety of recommendations for educators, policy makers, and communities that could significantly improve education through integration with health and well-being.

Lerner's 5Cs of positive youth development and Bronfenbrenner's bioecological systems model guided the selection of the frameworks. The report found that these frameworks address education and health across multiple levels of the human ecology: individual, school, district, and community. Interventions applying theories of intelligence and personality and mindfulness teach students skills to change their attitudes and behaviors. Positive education and social and emotional learning (SEL) guide the development of school and district-level interventions. Finally, the integrated student supports (ISS) model is designed to transform schools into institutions where students, families, and members of the community can receive the full range of human, social, and health services.

Emerging evidence supports the effectiveness of interventions that are guided by these frameworks. However, most evidence indicates only short-term gains because longitudinal studies of more distal improvements are scarce. Further, with the exception of school-based SEL interventions and the integrated students supports model, few interventions have addressed multiple outcomes across both educational and health domains. Of the health-related outcomes, physical health is rarely examined; most studies investigated the impact of interventions on mental and emotional health. Further research needs to identify and test pathways that lead to both short-term and long-term educational and comprehensive health gains in youth. Existing research also identifies issues related to implementation, such as partnership and sustainability, as key factors to influencing an intervention's effect.

While promoting youth well-being was a priority in all the case examples, the quality of integration of policy with an intervention varied greatly. Policies and programs that aimed at changing individual attitudes, emotions, and behaviors showed the strongest evidence of success in improving youth educational and health outcomes. Policies and programs designed to create systematic change have not been as impactful. To effect change beyond the individual level, policies and programs require more human and social capital. Moreover, system-level changes are more difficult to document. To advance the understanding of how well-being can be improved through education and health, policies and programs need to take on a more systems-based approach and go beyond changing individual student outcomes. Research needs to develop more effective evaluation tools that measure the impact of more complex policies and programs.

The review of frameworks that promote both health and educational gains provides some insight into future direction. Taken together with the case examples, there are various recommendations for how these well-being approaches integrating education and health may be tailored, adopted, and implemented. We describe implications for broader youth well-being strategy development, program delivery and implementation, and evaluation. For strategy development, a multi-systems approach that links educational systems and health systems is needed. The literature review of frameworks and analysis of case examples also suggest that school is an effective setting to deliver interventions that aim to support improvements in both education and health. Further, youth well-being strategies needs to consider civic participation as an additional pathway to positive education and health. Some of the case studies have incorporated civic participation as a component; however, it has not been a focus in program development. For implementation, a careful consideration of the host setting including a thorough needs and strengths assessment of all stakeholders is important. Next, a system must be in place to develop a structured protocol and to monitor progress of implementation. More comprehensive evaluation of processes and outcomes is needed to improve implementation.

Drawing from our analysis of the frameworks and examination of the case examples, we conclude with policy and program recommendations relevant for communities and countries looking to improve youth educational and health outcomes in a more focused way. As illustrated by the case examples, partnerships among government ministries is key to developing a multi-systems approach. Developing an evidence-based framework that details the pathways that would lead to better educational and health outcomes needs to be central to any policy development. A clearinghouse to help facilitate data sharing and learning about evidence-based practices is important to designing and implementing effective programs. Rigorous evaluation is needed to assess the quality of implementation and program effectiveness.

FIGURES AND TABLES

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Abbreviations

CASEL	Collaborative for Social and Emotional Learning
CDC	Centers for Disease Control and Prevention
CWEI	Child Well-Being and Empowerment Index
ESP	Education Strategic Plan
GCC	Gulf Cooperation Council
GGS	Geelong Grammar School
GPA	Grade Point Average
GNI	Gross National Income
ISS	Integrated Student Supports
LSCE	Life Skills and Citizenship Education (MENA)
MENA	Middle East and North Africa
ME	Mindfulness Education
MOE	Ministry of Education
MoSYA	Ministry of State for Youth Affairs (Kuwait)
MBSR	Mindfulness Based Stress Reduction
NGO	Non-governmental Organization
QIF	Quality Implementation Framework
RCT	Randomized Controlled Trial
SEL	Social and Emotional Learning
SMC2C	Santa Monica Cradle to Career
WISE	World Innovation Summit for Education
WISH	World Innovation Summit for Health
UAE	United Arab Emirates
UNICEF	United Nations Children's Fund
UT	Universidad Tecmilenio

Introduction

Many youth well-being frameworks, such as the Global Youth Well-being Index and UNICEF's Child Well-being Index, find that health and well-being support academic achievement among youth. Yet youth well-being policies and programs have done relatively little to integrate education and health for young people. This report provides a summary and analysis of existing knowledge on how to successfully integrate educational concepts and assessments into well-being efforts. This text should be of interest to researchers, educators, health professionals, and policy makers concerned with how communities can integrate health and educational approaches to support youth well-being.

A team of researchers from the RAND Corporation, working closely with Qatar Foundation's World Innovation Summit for Education (WISE) and World Innovation Summit for Health (WISH) initiatives, developed this report to (1) summarize theoretical frameworks that work through health and education to promote youth well-being; (2) identify programs globally which have actively pursued health and education as part of youth well-being, with an emphasis on efforts in Qatar and the Middle East and North Africa (MENA) region; and (3) examine lessons learned from these case study programs, and related literature, toward making recommendations to better link health and education for youth well-being policy and practice.

We considered case study programs in Jordan, Kuwait, New Zealand, Ontario, Canada, Singapore, and the United States (Santa Monica, California). We also included emerging work from Oman and Denmark to illustrate innovative country-level well-being policy intended to integrate health and education. RAND also conducted key interviews with decision makers, researchers, and practice leaders with experience in designing, implementing, and evaluating integrated youth well-being policies and programs.

RAND Social and Economic Well-Being, a division of the RAND Corporation, seeks to actively improve the health and social and economic well-being of populations and communities throughout the world. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. For more information, visit "http://www.rand.org" www.rand.org.

CHAPTER ONE

Improving health and education to promote youth well-being

Well-being is increasingly a focus of national and local strategy as interest moves beyond a sole focus on economic outcomes to capture a more holistic representation of human potential and social productivity. This is particularly true for the child and youth population, in which early investment can have profound benefits across the lifespan. The well-being of this population in the Middle East and North Africa (MENA) region is especially critical as children and youth make up a significant portion of the population. In 2017, children and youth under the age of 24 made up 50 percent of the population in all MENA countries except Qatar, UAE, Kuwait, Bahrain, and Lebanon (children and youth were more than 40 percent of the population in these countries) (UNICEF, 2019). Similarly, children and youth under the age of 25 made up 54 percent of the total population of the six GCC countries in 2010 (Kuwait Financial Centre, 2012). Educational and community settings are where much of the activity to support youth occurs, but there has been limited review of the approaches to promote well-being in these settings, with particular attention to how health and education are connected to ultimately promote well-being.

In this chapter, we define youth well-being and discuss its importance, and describe five current frameworks that link aspects of health and education to advance well-being. Each of these approaches: implicit theories, positive education, social and emotional learning, mindfulness, and integrated student supports model, provides insight into how education and health can be integrated to support overall youth well-being.

Definitions and importance of youth well-being

Well-being is becoming a core feature of national and community planning, policy making, and resource allocation, and is emerging as critical to the development of thriving individuals, communities, and nations. Some of this discussion is rooted in the field of positive psychology (Peterson, 2006; Seligman & Csikszentmihalyi, 2014), while other aspects of well-being research stem from the fields of community development and empowerment (Coburn & Gormally, 2018; Lee, Kim, & Phillips, 2015). There are many approaches to well-being, and there is no single established definition of well-being. However, there are common elements to many existing definitions. The United States Centers for Disease and Control and Prevention (CDC) defines well-being as "a positive outcome that is meaningful for people and for many sectors of society because it tells us that people perceive that their lives are going well." In short, well-being generally includes some appraisal of life satisfaction (Diener, 2009; Diener & Seligman, 2004).

Although well-being definitions can vary slightly (e.g., the state of being healthy and happy; the state of having a meaningful and purposeful life), well-being comprises both individual and community dimensions. Individual well-being can be defined as the extent to which people experience happiness and satisfaction and are realizing their full potential. In the UK Measures of National Wellbeing Dashboard, for example, personal well-being includes "individual's feelings of satisfaction with life, whether they feel the things they do in their life are worthwhile and their positive and negative emotions," (Office of National Statistics, 2019). Community well-being includes components and capabilities of the community that support healthy and meaningful lives, such as community health, economic resilience, and educational capacity. Returning to the UK example, community well-being is often reflected in living conditions,

such as "an individual's dwelling, their local environment and the type of community in which they live."

There are several approaches to well-being measurement, and they tend to cut across health, environment, education, social, and civic dimensions.

• For instance, the Canadian Well-Being Index has eight quality of life domains: time use, leisure, community vitality, democratic engagement, education, environment, healthy populations, and living standards (Canadian Index of Wellbeing, n.d.).

• The Santa Monica, California (US) Civic Well-Being Index has six dimensions: lifelong learning, place and planet, health, economic opportunity, community and outlook (City of Santa Monica, n.d.-b).

Moreover, there are subjective and objective components. Typically, subjective well-being is operationalized by three components: an evaluative component that reflects an assessment of an individual's life as a whole; a eudaimonic component that captures individual perceptions of meaning and purpose in their live (sometimes also defined as happiness); and a hedonic component that assesses an individual's emotional states (Stone & Mackie, 2013). Objective components of well-being focus on observable features at the individual (e.g., rates of chronic diseases), community (e.g., availability of well-being- promoting amenities like parks), and even broader civic levels (e.g. policies that support participatory engagement). Taken together, these subjective and objective multi-dimensional measures can provide a picture of the current well-being and well-being potential of a community or nation overall.

Youth specific well-being is an increasingly important part of this well-being discussion and is informing local and national policy and the choices that youth-serving organizations are making in the context of supporting youth development. As with general well-being, youth well-being definitions can vary. A key element of the broader well-being discussion is consideration of what factors contribute to youth thriving, given that a key outcome of well-being is the ability to thrive (Carver, 1998).

Carver defined thriving as having newly developed skills, confidence and sense of mastery as well as strengthened personal relations. He also noted that thriving is more than the recovery of homeostatic maintenance. The "person who experiences thriving comes to function at a continuing higher level than was the case before the adverse event." In youth development work specifically (Benson & Scales, 2009; Lerner, Dowling, & Anderson, 2003), and others have pointed to aspects of positive youth development to undergird thriving concepts. For example, the 5 Cs –competence, confidence, caring, connection, and character– are considered core to youth well-being (Lerner et al., 2003). Similarly, the Search Institute's 40 Developmental Assets Model has been applied globally to understand the relationship between positive youth development and youth well-being (Scales, 2011; Scales, Benson, & Roehlkepartain, 2011)

As with overall well-being, measurement of youth well-being varies but tends to center on dimensions of education and health, including social, physical and emotional health (the focus of this report) as well as dimensions of civic engagement, relationships, and in some cases, economic potential. The focus of this report is not on measurement, but there are several efforts underway with varying strengths and weaknesses, which are attempting to measure youth well-being much like the Canadian Well-Being Index is measuring national well-being. For instance, UNICEF is developing indicators of child well-being, building on data from within and cross-country analyses of early childhood development, physical growth and development, child labor, and other social development (White & Sabarwal, 2014). Child Trends (Anderson et al., 2016; Child Trends, 2016) has the positive indicators project to outline a set of measures that signify child well-being.

Working through education and health to promote youth well-being

While we know health and lifelong learning are components of youth well-being, there has been comparatively little integration of education and health frameworks in educational settings and settings that promote overall youth well-being. For example, an educational assessment in a well-being framework would include social and emotional learning, employment transitions, and development of twenty-first century learning skills in addition to measurements of math, reading, and literacy competency (Bodilly et al., 2010; Karoly et al., 2009). Some cities and countries are adapting this integrated understanding of well-being and linking health to education among children and adolescents. For example, Santa Monica, California has recently implemented an initiative to produce a Youth Well-being Report Card that includes both health and educational achievement outcomes (Santa Monica - Cradle to Career, 2017). Similarly, in 2017, the International Youth Foundation produced the Global Youth Well-being Index to score 29 countries on seven domains that include gender equality, economic opportunity, education, health, citizen participation, safety and security, and information and communication technology (www.youthindex.org). The index is intended to assist youth and policymakers to identify opportunities for youth investments.

In this report, we apply two theoretical frameworks of youth development to guide our literature review and analysis of case examples. The first is Lerner's 5Cs of positive youth development. Informed by Rick Little's work at the International Youth Foundation, Lerner developed the 5Cs model of positive youth development. As discussed earlier, the 5Cs –competence, confidence, caring, connection, and character– are considered core of youth well-being.

A longitudinal study of the 4-H youth program in the United States followed participants from Grade 5 to Grade 12 and found that adolescents who participated in the program reported higher levels of the 5Cs in comparison to youth in the comparison group by Grade 11 (Lerner & Lerner, 2013). More importantly, 4-H participants reported higher levels of academic competency and healthy habits than comparison students (Lerner & Lerner, 2013). Gains in the 5Cs were also associated with lower levels of depression reported by participants when they were in Grade 6 (Jelicic, Bobek, Phelps, Lerner, & Lerner, 2007). In another cross-sectional study, competence, confidence, and character were associated with better academic performance in Ghanaian, Kenyan, and South African adolescents (Adams, Wiium, & Abubakar, 2019). Given the significance of the 5Cs in supporting positive educational and health outcomes in youth, we selected and reviewed frameworks that hypothesized at least one of the 5Cs as a pathway to improve youth education and health. In addition, we included frameworks that span across multiple ecological systems. The inclusion of frameworks that promote positive education and health across multiple ecological systems is important because academic achievement and health do not happen in a vacuum. Youth educational achievement and health are affected by multiple systems, such as family, peers, school, and community (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006).

In the following sections, we describe five theoretical frameworks that attempt to integrate aspects of learning and different dimensions of health (e.g., mental, behavioral, social), particularly in educational and youth-serving organization settings. We also selected frameworks that have been applied in different countries to highlight cross-cultural evidence. The frameworks are (1) implicit theories of intelligence and personality, (2) mindfulness, (3) positive education, (4) social-emotional learning (SEL),

and (5) integrated student supports model. All five frameworks include at least one of the 5Cs as a pathway to affect youth education and health on the path to promote youth well-being (see Table 1.1). Indeed, evaluations of interventions applying these five frameworks have found positive effects on youth educational and health outcomes. However, the strength of evidence varies and not all interventions address both educational and health outcomes. We organize the frameworks according to Bronfenbrenner's bioecological systems model (1974) to demonstrate the system level at which each framework is hypothesized to improve education and health. The five frameworks cover individual, school, district, and community levels. Finally, it is important to note that these five frameworks are examples of approaches that have been applied to promote positive educational and health outcomes in youth. This list of five frameworks is not meant to be exhaustive.

For each framework, we describe the framework briefly and review evidence on its use and effectiveness in improving educational and health outcomes. For educational outcomes, we include evidence for both subjective and objective indicators. For example, subjective indicators of academic achievement include academic self-efficacy and school belonging. Objective indicators include grades, standardized test scores, and high school graduation rates. For health outcomes, we apply a comprehensive understanding of health to include physical, mental, and social health-related outcomes (Huber et al., 2011). It is important to note that most evaluations of the frameworks placed an emphasis on mental and social health. Finally, for each framework, we discuss the strength of the evidence and present issues and considerations related to implementation of the specific framework. At the end, we summarize cross-cutting findings about implementation.

Lerner's 5Cs	Definition of 5Cs	Relevant Frameworks
Competence	Skills in specific areas, such as academic and social and emotional skills.	Implicit Theories of Intelligence and Personality; Social and Emotional Learning
Confidence	A positive sense of self.	Implicit Theories of Intelligence and Personality; Mindfulness; Social and Emotional Learning; Positive Education
Connection	Positive relationships with others and institutions, including with peers, family, school, community.	Positive Education; Social and Emotional Learning; Integrated Student Supports
Character	A sense of right and wrong, respect for societal and cultural norms.	Positive Education; Social and Emotional Learning
Caring	A sense of sympathy and empathy for others.	Positive Education; Social and Emotional Learning

Table 1.1. Matching Frameworks to Lerner's 5Cs

Individual-level: Implicit theories of intelligence and personality

At the individual-level, one's beliefs about his/her abilities to change and adapt can have a profound affect on educational and health outcomes. There is a long literature on the role of implicit theories, and we briefly summarize that work here as it relates to the promotion of educational and psychological health outcomes via changing individual beliefs about human traits, such as intelligence and personality. Implicit theories of intelligence and personality aim to promote better educational and health outcomes by improving students' positive sense of self and effective problem-solving skills (Confidence and Competence).

Description

Implicit theories describe an individual's beliefs about the malleability of human traits; that is, how much an individual can evolve given temperament, personality and other seemingly innate characteristics (Dweck, Chiu, & Hong, 1995a; Dweck & Leggett, 1988). In the context of education, the implicit theories of intelligence have been studied extensively. The theories rest on the malleability of intelligence, from fixed mindset to growth mindset (Dweck & Leggett, 1988). In a fixed mindset, there is a belief that intelligence and talent exist as fixed traits; in a growth mindset, there is a belief that abilities can be developed through dedication and hard work. Fixed mindset and growth mindset are two points on a continuum and individuals can have varying levels in between these two mindsets.

Students with a fixed mindset believe that intelligence is innate and not malleable. When faced with obstacles at school, these students are more likely to disengage because they believe that setbacks are indicators of their lack of ability to succeed. On the other hand, students with a growth mindset believe that intelligence is flexible and can be changed through effort. They view challenges as opportunities to learn and seek feedback as they work toward their goals (Dweck, 2008). In addition, recent research has investigated the influence of implicit theories of personality traits, and found that growth mindset is protective and thus negatively associated with the incidence of depression (Miu & Yeager, 2015; Schleider & Weisz, 2018), anxiety (Schleider & Weisz, 2018), and aggressive behaviors in children and adolescents (Yeager, Trzesniewski, & Dweck, 2013).

Summary of evidence

Academic outcomes

Recent research has found significant evidence to support the positive association between growth mindset and academic achievement. Cross-sectional and longitudinal research found that growth mindset is associated with gains in educational outcomes, such as overall grade point averages (GPAs), standardized test scores, math grades, and school engagement in secondary school students (seventh to tenth grade). Moreover, the positive findings have been replicated in multiple cultural contexts, including the United States, Scotland, Chile, Turkey, and China. Growth mindset's influence on academic achievement is particularly strong among those who are most vulnerable to academic underperformance (e.g., students from lower income families, students from historically marginalized groups). Using a nationally representative sample of tenth grade students in Chile, Claro and colleagues (2016) found that growth mindset was associated with the highest gains in standardized test scores among students from lower income families. However, students from lower-income families were less likely to have a growth mindset in comparison to their more affluent counterparts (Claro, Paunesku, & Dweck, 2016). Given the significance of growth mindset for vulnerable students and the fact that they are less likely to believe that intelligence is malleable, recent research has placed an emphasis on developing and evaluating cost-effective and scalable school-based interventions to promote growth mindset in students.

A number of school-based growth mindset interventions have been evaluated, and findings from these studies are promising. Most interventions target students from seventh to tenth grade, and most are brief. The two interventions that have received the most rigorous evaluation are Brainology (Mindset Works, n.d.) and Growth Mindset for ninth graders (PERTS, n.d.); and they are five and two units in length, respectively. Each unit takes about 30 minutes. Brainology includes both online and offline activities. Growth Mindset for ninth graders is a completely online program. Overall, school-based growth mindset interventions, regardless of length or mode of delivery, include the same three components: (1) a lesson on neuroplasticity and growth mindset to teach students about the malleability of traits including intelligence and the importance of efforts, (2) learning about how other students (often older students who serve as role models) have used effort-based strategies to overcome obstacles, and finally, (3) "seeing is believing" – applying strategies that they have learned from the intervention (e.g., writing a letter to younger students about what they have learned about growth mindset and study skills; see Table 1.2 for examples of growth mindset interventions).

Evidence from existing research largely supports the effectiveness of growth mindset interventions in promoting academic achievement. Research designs vary from quasi-experimental study to randomized controlled trials, with multiple follow-up data collection. Sample size ranges from a small sample of 33 students from one secondary school in Scotland to a large sample of over 1,500 students from 13 high schools in the U.S. (Paunesku et al., 2015). First, research has found evidence that growth mindset can be changed by intervention. In comparison to students in the control conditions, students who received the growth mindset interventions reported gains in growth mindset immediately post-intervention and at later times (Burnette,Russell, Hoyt, Orvidas, & Widman, 2018; Donohoe, Topping, & Hannah, 2012; Kagitcibasi, Baydar, & Cemalcilar, 2018; Orosz, Péter-Szarka, Bőthe, Tóth-Király, & Berger, 2017). Furthermore, students who were in the growth mindset interventions had better academic outcomes than those in the control condition. Growth mindset interventions were found to improve GPAs immediately post-intervention among rural tenth grade girls in the U.S. (Burnette et al., 2018), U.S. high school students at risk of academic underachievement (Paunesku et al., 2015), and African American college students (Aronson, Fried, & Good, 2002).

One longitudinal intervention study found that growth mindset changed the trajectories of math grades among seventh grade students in New York City in which intervention students reported gains in math grades and control students reported declines in math grades overtime (Blackwell, Trzesniewski, & Dweck, 2007). However, more recent studies have found that growth mindset interventions may not be as effective for younger students and students who are performing well at school. Seventh grade students who received a growth mindset intervention reported declines in academic efficacy and interest in learning overtime, whereas, ninth grade students who received the same intervention reported gains in the same outcomes (Schmidt, Shumow, & Kackar-Cam, 2017). For students who were already doing well academically, growth mindset interventions did not appear to be as effective. A longitudinal study did not find a significant effect of growth mindset intervention in a sample of tenth grade Hungarian students with high GPAs; students did not report gains in GPAs from pre-intervention to follow-up (Orosz et al., 2017). Similarly,

high school students who were not at risk of academic underachievement did not report gains in GPAs by participating in the growth mindset intervention (Paunesku et al., 2015). The findings need to be interpreted with caution as GPAs may not be the best assessment of academic achievement for students who are performing well at school because their GPAs may be close to the ceiling. Additional indicators such as enrollment in honors classes and classroom engagement are needed to accurately evaluate the effect of growth mindset interventions on high achieving students.

As described earlier, growth mindset is hypothesized to change students' interpretation of challenges and setbacks, which in turn, would promote academic achievement despite significant risk of academic underachievement. Indeed, evaluations of growth mindset interventions have found a positive effect on a number of social and cognitive factors that allow students to persist in the face of challenges. For example, gains in growth mindset explained the intervention effect on learning motivation and academic efficacy in a sample of rural adolescent girls (Burnette et al., 2018). Similarly, sixth grade Turkish students from lower-income families reported increases in general self-efficacy after participating in a growth mindset intervention (Kagitcibasi et al., 2018).

Taken together, research supports the use of school-based growth mindset interventions to promote academic achievement among middle and high school students in different countries including the U.S., Turkey, and Hungary. Furthermore, growth mindset appears to have a larger effect on students who are at risk of academic underachievement. Although research has found a positive effect on academic outcomes, the long-term impact on educational trajectories is yet to be determined. The longest follow-up in an intervention study was four months after students had completed the intervention (Burnette et al., 2018).

Future research ought to track the progress of students for longer periods of time to examine the extent to which growth mindset interventions can affect long-term educational outcomes such as high school graduation and enrollment in post-secondary education. Finally,some studies have found that growth mindset interventions are not as effective for students who are already doing well at school. Targeting and tailoring interventions to students who are most in need would be a sensible next step to maximize the return on investment.

Social and psychological health outcomes

More recently, research on implicit theories has begun to investigate the extent to which school-based growth mindset interventions can promote social and psychological well-being in addition to positive educational outcomes. School-based growth mindset interventions have been applied to address issues of depression, anxiety, and bullying in adolescents in the U.S. Research has found that students with a fixed mindset are more susceptible to stress. For example, ninth grade students who were experiencing grade declines had greater levels of cortisol and stress but the relationships were only significant for students with a fixed mindset (Lee, Jamieson, Miu, Josephs, & Yeager, 2018). Moreover, a fixed mindset was associated with higher levels of depressive and anxiety symptoms in adolescents (Romero, Master, Paunesku, Dweck, & Gross, 2014). Again, growth mindset is hypothesized to improve students' social and psychological health by changing students' interpretation of negative emotional states, stress, and victimization. Students with a growth mindset perceive depression and anxiety as non-permanent states, and that it is possible that they could feel better in the future. Similarly, students with a growth mindset are less likely to view themselves as victims when experiencing bullying and have fewer negative attitudes toward themselves and their aggressors. School-based growth mindset interventions teach students to view their current negative experience (i.e., depression, anxiety,

and bullying) as situational and that they have the ability to change the situation (Miu & Yeager, 2015).

Growth mindset interventions that aim to improve social and psychological health also include three components: (1) a lesson about neuroplasticity and growth mindset with an emphasis on how feelings can change, (2) learning about how students were able to cope with similar negative experiences with more proactive problem solving strategies, and (3) "seeing is believing" – applying strategies they have learned from the intervention (e.g., writing a letter to encourage younger students who are facing similar challenges; see Table 1.2 for examples of interventions). Two studies tested the effectiveness on reducing depressive and anxiety symptoms in adolescents (Miu & Yeager, 2015; Schleider & Weisz, 2018). Both studies utilized a randomized controlled design in which adolescents were randomly assigned to either intervention or a control condition. In addition to documenting post-intervention outcomes, both studies collected data from participants nine months after the completion of the intervention. The length of the intervention, however, differed. Schleider and Weisz (2018) tested a one-session intervention, whereas, Miu and Yeager (2013) tested an intervention that consisted of six sessions. Finally, one study that utilized a similar six-session intervention tested its effectiveness on reducing aggression in response to bullying (Yeager et al., 2013). The follow-up period was shorter in this study; students were followed for only three months post-intervention.

All three interventions reduced self-reported depressive and anxiety symptoms and aggression. Miu and Yeager (2015) tested the intervention during a time of heightened vulnerability and change – transition to high school. In comparison to students in the control condition, the intervention students reported lower negative mood and negative self-view and higher self-esteem at the nine month follow-up (Miu & Yeager, 2015). More importantly, among those who were in the intervention group, only students with a fixed mindset benefited from the intervention: they did not report increases in depressive symptoms.

The second study tested the effectiveness of a one-session intervention in a clinical sample of adolescents (Schleider & Weisz, 2018). Adolescents were eligible to participate in the study if they had received school-based accommodations for depressive or anxiety symptoms, had sought treatment in the last three years, or had scored in the 84th percentile or higher on a standardized depression and anxiety screener. The intervention group reported higher levels of improvement in both parent and youth-reported depressive symptoms from baseline to nine month follow-up in comparison to the control group. Similar steeper declines in parent-reported anxiety symptoms were found in intervention participants (Schleider & Weisz, 2018).

Finally, Yeager and colleagues (2013) tested the effectiveness of a growth mindset intervention on reducing aggression in response to bullying in a sample of ninth and tenth grade students in San Francisco, California. Students in the intervention condition reported less aggressive and more prosocial responses to peer victimization and exclusion in comparison to students in the control condition one month after completing the intervention. Moreover, intervention reduced teacher-reported conduct problems among students who were victims of peer aggression three months post-intervention. However, the intervention did not reduce conduct problems or depressive symptoms among those who were *not* victims of peer aggression. This was the only study that also investigated education-related outcomes: Students in the intervention condition had fewer absences than students in control condition.

Although fewer evaluations have been conducted to investigate the influence of school-based growth mindset interventions on social and psychological health in adolescents, research supports the effectiveness of such interventions. The longer follow-up periods included in these studies allow the detection of longer-term effects on psychological health. Students reported reduction in depressive and anxiety symptoms nine months after completing the intervention (Miu & Yeager, 2015; Schleider & Weisz, 2018). The effectiveness of the growth mindset intervention is stronger among those who are most vulnerable (i.e., victims of peer aggression), similar to the findings obtained from studies on academic achievement.

Unlike the studies on academic achievement, evidence supporting the effectiveness of growth mindset interventions on social and psychological health strictly comes from samples of adolescents in the United States. Additional research is needed to test whether growth mindset interventions could improve social and psychological health in other cultural contexts that may have different expectations and norms for addressing depression, anxiety, and bullying.

For example,if the preference for addressing bullying or other interpersonal aggression at school is more hierarchical in which teachers are expected to intervene, a growth mindset intervention that targets changing the beliefs and attitudes of students may not be as compatible and may require adjustment. Lastly, additional evaluations are needed to investigate the extent to which a growth mindset intervention that aims to improve social and psychological health could also promote academic achievement. The one study that examined this research question included only proxy measures of academic achievement (i.e., attendance). Future evaluations need to include comprehensive assessments of both educational and health outcomes.

Brainology	
Target Populations	Fourth to Seventh grade students
Duration	Each unit takes about 30-40 minutes
Materials	Self-guided online curriculum, offline student workbook
Curriculum	Unit 1. Introductory Unit – introduction to online program and to the concept of growth mindset; students complete pre-test assessment of implicit theories of intelligence (fixed mindset to growth mindset)
	Unit 2. Brain Basics – introduction to brain structure and function; the importance of attention and concentration to learning; and the physical aspect of thinking and learning
	Unit 3. Brain Behavior – introduction to neuro-connectivity and how learning changes the brain; how emotions can influence the brain and strategies to manage negative emotions and enhance positive ones
	Unit 4. Brain Building – how learning can change growth of connections in the brain; intelligence can be developed; activities to promote learning
	Unit 5. Brain Boosters – learn about the processes of memory; introduce study strategies that apply brain functions to deepen students' understanding of growth mindset; provide students with study skills
	Source: https://www.mindsetworks.com/programs/brainology-for-schools

Growth Mindset for Ninth Graders	
Target Populations	Ninth grade students
Duration	Each unit takes about 30 minutes
Materials	Self-guided online curriculum
Curriculum	Unit 1. Introduction to scientific literature that describes neuroplasticity and evidence to support that the brain can be changed through efforts
	Unit 2. Teach students about the importance of effective study strategies and seeking help from others
	Source: https://www.perts.net/orientation/hg
Growth Mindset for Depression, Anxiety, and Bullying Prevention	
Target Populations	High school students
Duration	Each unit takes about 50 minutes
Materials	Delivered by trained facilitators
Curriculum	Unit 1. Introduction to neuroanatomy, neuroplasticity, and how learning can change the brain; activities include team-building, lectures, and "brain challenge" worksheets
	Unit 2. Personality is influenced by the brain and therefore can be changed as well; activities include lectures, application of growth mindset strategies in response to hypothetical peer exclusion or interpersonal conflicts
	Unit 3. Behaviors are motivated by more than personalities; behaviors are motivated by feelings and thoughts and some of these can be changed; activities include writing and performing skits applying growth mindset strategies in response to hypothetical peer exclusion or interpersonal conflicts, small group discussions, and final writing assignments
	SOURCE: [Yeager, Trzesniewski, & Dweck, 2013; Miu & Yeager, 2015]

Table 1.2 Examples of Growth Mindset Interventions

Strength of evidence

Overall, the evidence supporting the association between growth mindset and education and health outcomes is strong. Research has applied a number of rigorous methodologies to study the relationship between growth mindset and positive educational and health outcomes. For example, longitudinal studies have provided evidence to support the notion that when students believe that their intelligence is malleable, they report higher levels of academic achievement. Moreover, the positive findings have been replicated in multiple cultural contexts, including the United States, Scotland, Chile, Turkey, and China. Although research has found a positive intervention effect on academic outcomes, the long-term impact on educational trajectories is yet to be determined. The longest follow-up in an intervention study was four months after students had completed the intervention (Burnette et al., 2018). Future research ought to track the progress of students for longer periods of time to examine the extent to which growth mindset interventions can affect long-term educational outcomes such as high school graduation and enrollment in post-secondary education.

To test the effectiveness of interventions that apply the implicit theories of intelligence and personality, evaluation studies employed random assignment. The use of random assignment strengthens the ability to make causal inferences. Finally, the effect of growth mindset interventions on academic achievement is particularly strong among those who are most vulnerable to academic underperformance (e.g., students from lower income families, students from historically marginalized groups). Similarly, interventions that promote growth mindset appear to be more helpful for students who are at risk of experiencing psychological distress (i.e., victims of peer aggression). The stronger intervention effect is important because students, who are vulnerable to poor academic and health outcomes are more likely to have a fixed mindset than their counterparts.

Hence interventions that promote a growth mindset have the potential to reduce disparities in education and health.

Implementation

Given that most of the school-based growth mindset interventions consist of self-guided online curricula, the typical implementation challenges related to delivery (e.g., training of facilitators) are minimal. However, some interventions, such as Brainology, do include a teacher-guided component, and extensive training is available to teachers. Additionally, concerns related to other implementation tasks such as obtaining buy-in from stakeholders, building capacity, fidelity, and improving future applications are important to consider. For example, recent studies that found no significant effects of growth mindset interventions suggested that buy-in and support from teachers were critical. One study on the implementation of a growth mindset intervention in a primary school found that teachers' access to scientific literature on growth mindset and classroom culture were important to successful implementation (Fraser, 2018). Specifically, when teachers believed in the benefits of growth mindset and incorporated growth mindset strategies in their instruction, the impact of growth mindset intervention could be more enduring. As such, more recent efforts have been shifted to develop effective growth mindset intervention for teachers. A recent evaluation found promising results: teachers reported higher levels of endorsement of growth mindset from pre- to post-test and from post-test to three-month follow up (Seaton, 2018). Furthermore, teachers shared that they would apply the growth mindset principles in their teaching and their interactions with students. Future implementation of school-based growth mindset intervention may consider providing training materials to educate teachers in addition to students.

In addition, developing the school's capacity to endorse growth mindset principles is important to sustaining the intervention effect. School norms and expectations that support growth mindset could strengthen students' gains in growth mindset beliefs and attitudes. The lack of supportive school environment could potentially diminish the intervention effects (Orosz et al., 2017).

Individual-level: Mindfulness

Mindfulness as a framework and philosophy offers insights that can inform the intersection of cognitive, emotional, and social development for young people. It has recently been applied in educational settings to support students' educational success (e.g., improved academic performance, increased ability to focus) and health (e.g., reduced stress and anxiety, improved sleep) (Weare, 2012). School-based mindfulness interventions focus on awareness of self and others. The focus on self relates to Confidence in Lerner's framework. Below we describe the origins, objectives, and the evidence base for both academic and health outcomes.

Description

Mindfulness, adapted from Buddhist meditation traditions, was first coined in the 1970s by biologist Jon Kabat-Zinn. He was credited with starting "secular mindfulness." His working definition of mindfulness is "the awareness that emerges when paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience, moment by moment," (Kabat-Zinn, Lipworth, & Burney, 1985). Kabat-Zinn developed the Mindfulness-Based Stress Reduction program (MBSR) and reported benefits for pain, body image, activity levels, medical symptoms, mood, anxiety, depression, and self-esteem (Astin, 1997; Chang et al., 2004). Mindfulness has also been researched as an effective coping strategy for stress.

"Mindfulness-based stress reduction teaches individuals to observe situations and thoughts in a non-judgmental manner without reacting to them thoughtlessly and helps people develop a more automatic consciousness of experiences, and could represent an effective instrument for the reduction of stress" (Sharma & Rush, 2014).

Given the promise of mindfulness practice to improve mental and emotional health, mindfulness practices have spread to classrooms to reduce the increasingly intense stress that students face managing school work, social engagements, and home contexts. The first formal integration of mindfulness into schools took place in the United Kingdom in 2007. Since its inception in the U.K., a variety of school-based mindfulness programs have been implemented around the world. While mindfulness has its origins in religious and spiritual practices, the academic literature on school-based mindfulness programs has not explored the influence of religiosity or spirituality on the effectiveness of mindfulness interventions. We discuss a selection of them below to provide examples of different mindfulness interventions.

Summary of evidence

The evidence for mindfulness in children and youth is broad in terms of outcomes of interest, ranging from mental health outcomes to classroom behaviors to interpersonal interactions. Researchers have also advanced the measurement of mindfulness, which is now widely measured using a 39-item Five-Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Kabat-Zinn caveats evaluation of mindfulness in a commentary, "mindfulness, from our point of view, cannot be taught to others in an authentic way, without the instructor's practicing it in his or her own life... In our experience, unless the instructor's relationship to mindfulness is grounded in extensive personal practice,the teaching and guidance one might bring to the clinical context will have little in the way of appropriate energy, authenticity, or ultimate relevance, and that deficit will soon be felt by program participants,"

(Kabat-Zinn, 2003). Thus, research assessing competency of mindfulness teachers is an important component of the effectiveness of mindfulness programs but is scarce in the literature.

Academic outcomes

There have been a number of evaluations as well as meta-analyses conducted to assess mindfulness-based interventions implemented in schools. Outcomes of interest include academic competency, health, and well-being. In this review, we focus on the academic and health outcomes.

Executive function is an important academic outcome to track in young children because it includes foundational skills that are needed for higher order thinking, problem solving and planning (Diamond, 2014). Moreover, children and adolescents with higher levels of executive functioning are more likely to succeed academically (see review by Jacob & Parkinson, 2015). The development of executive function during early childhood is particularly important because research has found that children with higher executive function perform better academically during adolescence (Best, Miller, & Naglieri, 2011). As such, school-based mindfulness interventions have focused on improving executive function in young children (pre-school and kindergarten-aged). A two-year study of a one-year long mindfulness-based program called MindUP was implemented with 47 preschoolers (Thierry, Bryant, Nobles, & Norris, 2016). The program included 15 lessons (20 to 30 minutes each) focused on building self-awareness and self-regulation. The evaluation focused on executive function skills including working memory, planning, and organizing. At the end of intervention, students in the intervention group had higher teacher-reported executive function skills than students in the control group.

At the end of follow-up (one-year after the completion of intervention), the intervention group had higher reading and vocabulary scores. Another study evaluated the effectiveness of an eight-week mindfulness intervention in second and third graders found that mindfulness appeared to be more effective to students who are most vulnerable. Intervention students with the lowest levels of emotional regulation at pre-test reported the largest improvements in executive function at post-test (Flook et al., 2010).

Another example of a school-based mindfulness intervention that explored academic outcomes was Mindful Schools. During the 2011-2012 academic year, 937 elementary school students who were enrolled in the Mindful Schools participated in a randomized-controlled study (Fernando, 2013). Students in the intervention group received 15 sessions (15-minute each) over the course of six weeks. Lessons covered topics such as mindful breathing, mindful eating, and mindful listening. Students in the intervention condition reported larger improvements in attention and participation in class activities than their counterparts.

Social and psychological health outcomes

Multiple meta-analyses have evaluated the impact of school-based mindfulness on social and psychological health outcomes in youth. One meta-analysis (Zenner et al., 2014) found that school-based mindfulness interventions were effective at improving positive and constructive emotions, social skills, and self-esteem in children and adolescents. Authors also found a significant reduction in stress outcomes. All but one study included in the meta-analysis measured stress using self-report assessment. The exception assessed stress using cortisol levels.

In another meta-analysis, Carsley and colleagues found that the 24 studies included in the analysis reported a significant effect size on mental health outcomes at post-test and follow-up (Carsley, Khoury, & Heath, 2018). Results were the strongest for older adolescents.

Smaller effects were found in middle adolescents and there were no significant effects in the youngest group. However, effect sizes were similar for male and female students. In addition to examining effect size, this meta-analysis considered study quality. The authors found that the results were weakly moderated by the quality score of the studies.

Finally, a more recent review analyzed 13 studies that focused on the impact of school-based mindfulness interventions on social and emotional health in early adolescence (ages 11-14) from the United States, Australia, New Zealand, Canada and the United Kingdom (McKeering & Hwang, 2019). While most studies focused on the general student population, three studies in this review placed an emphasis on more vulnerable populations: one included low-income, minority students in middle school (Sibinga, Webb, Ghazarian, & Ellen, 2016), the second one included students who were at-risk of homelessness (Viafora, Mathiesen, & Unsworth, 2015) and finally, the third study focused on students at risk of socioeconomic exclusion (Costello & Lawler, 2014). The analysis considered positive mental health coping skills, such as optimism, coping, self-compassion, self-concept, and emotional regulation and negative mental health outcomes including anxiety, depression, and stress. The authors found that mindfulness-based interventions were more effective at decreasing negative mental health outcomes (moderate to large effect sizes) than improving positive mental health coping skills (small effect sizes). The aforementioned meta-analyses provide evidence to support the use of school-based mindfulness interventions to improve student social and psychological health. Below we share specific examples of mindfulness programs that have been implemented and evaluated, at least to some extent, in schools to give tangible examples of different types of programming. The two interventions included are Mindful Schools, Mindfulness in Schools Program, and Mindfulness Education.

Mindful Schools, the program mentioned above, was developed "for under-resourced public schools facing high turnover rates and toxic stress" (Mindful Schools, n.d.). A pilot study of Mindful Schools was conducted at a summer camp with 18 minority children. The intervention included ten, 15-minute lessons, daily for two weeks (Liehr & Diaz, 2010). Children were randomized into either mindfulness intervention or health education. The lessons covered the following topics: attention to breath, mindful movement, and generosity. Children in the intervention condition reported greater levels of reduction in depressive symptoms than those who received health education.

Mindfulness in Schools Program (MiSP) was developed by teachers in the United Kingdom to for students ages 11-18 (MiSP, n.d.). It included a curriculum called .b (dot b). Dot b included ten lessons, each lasting 40 to 60 minutes. The lessons covered an introduction to mindfulness and topics such as paying attention, recognizing worry, befriending the difficult, and taking in the good. The ten lessons were accompanied by home practice, which included guided mindfulness practices. A randomized controlled trial of dot b was conducted in a sample of Grade 7 and 8 South Australian students to assess its impact on psychological and physical health outcomes (Johnson, Burke, Brinkman, & Wade, 2016). Students completed surveys at pre-intervention, post-intervention, and 11-weeks follow-up. Outcomes included anxiety and depression, weight and shape concerns, emotional dysregulation, and self-compassion. No significant improvements were found in any of the outcomes at post-test or at follow-up.

Strength of evidence

Authors of the meta-analyses summarized above noted a few important limitations in research on school-based mindfulness interventions. For example, the variations in the implementation and research designs of the mindfulness interventions made interpretation of findings challenging.

Zenner and colleagues (2014) also noted that existing research has not considered factors such as school environment and social context carefully. Felver and colleagues (2016) found a similar problem in their review of the literature: only three of the 22 studies reported on school-level socio-economic factors such as proportion of students who receive free and reduced lunch and average family income in the district. Finally, recent evaluations of Mindful Schools and MiSP are limited by small sample size, lack of information about program implementation fidelity, and lack of follow-up data.

To address the limitations in existing research, Felver and colleagues (2016) came up with a list of recommendations for future research on mindfulness interventions in schools.

Recommendations include the application of experimental research designs with longer follow-up period, larger sample size, multiple informants to report on outcomes, inclusion of and control for socio-economic variables, and use of school-reported academic measures (see Table 1.3).

Category	Description of major findings
Research designs	Many studies used large sample sizes
	Only a third of the research used experimental design
	Few studies used an active control condition
	Most studies implemented interventions within the normal classroom setting
	Most studies use student self-report as the primary dependent variable
Subject characteristics	Studies conducted across a balanced range of ages and grade levels
	Lack of reporting of student demographic characteristics, particularly disability and socio-economic status
	Many studies include students with diverse ethnic-racial backgrounds
Intervention characteristics	Varied types of studies in terms of mindfulness practices and "dosage" (i.e., minutes, sessions, and duration of intervention)
	Many studies included elements of Mindfulness-Based Stress Reduction
	Studies used both teachers or outside facilitators to deliver intervention
	Majority of studies used a group intervention format conducted in a classroom during the school day
Outcomes	Most studies included a single informant, typically students
	No school-collected data (e.g. grades) included in analyses
	Few studies collected post-intervention follow-up data
	Few studies used multi-method, multi-informant approach to data collection

SOURCE: Felver et al., 2016.

Table 1.3. Summary of Mindfulness Interventions in Schools

Implementation

Overall, mindfulness programming in schools varies widely in terms of implementation and evaluation. For implementation, some programs were offered during school hours and others in afterschool programming; some were administered by a trained teacher, others by outside facilitators. Mindfulness was taught in all age groups, length and frequency and content of lessons varied greatly. In terms of evaluation conducted to understand the effectiveness of these interventions, studies varied widely in what student and teacher characteristics were considered, what elements of the content were evaluated, what type of comparison group was used if there was one, and what educational and health outcomes were examined.

In their meta-analysis, Zenner and colleagues (2014) explored mindfulness intervention acceptability which provided insight into user satisfaction. Focus groups and interviews with teachers and students revealed a positive experience with the mindfulness intervention. Two studies included in the meta-analysis found that 89 percent of students agreed that they would recommend the mindfulness training to other students. In addition to acceptability, other implementation factors reported in the literature include scheduling and managing late arrivals, having parental and administrative support, and maintaining students' interest in the intervention (Desmond, Hanich, & Millersville, 2010). In one study, teachers felt that voluntary participation from students was an important facilitator to successful implementation (Beauchemin, Hutchins, & Patterson, 2008). Lastly, the meta-analysis by Carsley et al., 2018 found that interventions that were delivered by outside facilitators had a larger effect than interventions that were delivered by trained teachers at post-test. They attributed the difference to the facilitators' more in-depth knowledge and experience with mindfulness.

However, the difference was reverse at follow-up: the intervention that were delivered by teachers had a larger effect. In comparison to outside facilitators who left after the completion of the intervention, teachers had a consistent presence in the school and it was possible that they were reinforcing lessons from intervention in their students.

School and district-level: Positive education framework

Implicit theories and mindfulness frameworks aim to improve educational and health outcomes through changing an individual's beliefs, attitudes, and behaviors. However, a more systematic approach to education is often needed to improve youth education and health. Positive education is an example of such an approach; it broadens the purpose of education from a narrow focus on academic achievement to promoting student health and overall well-being. Schools that adapt the positive education framework focus on promoting positive emotions, positive sense of self, and positive relationships in students (Confidence, Connection, Character, and Caring).

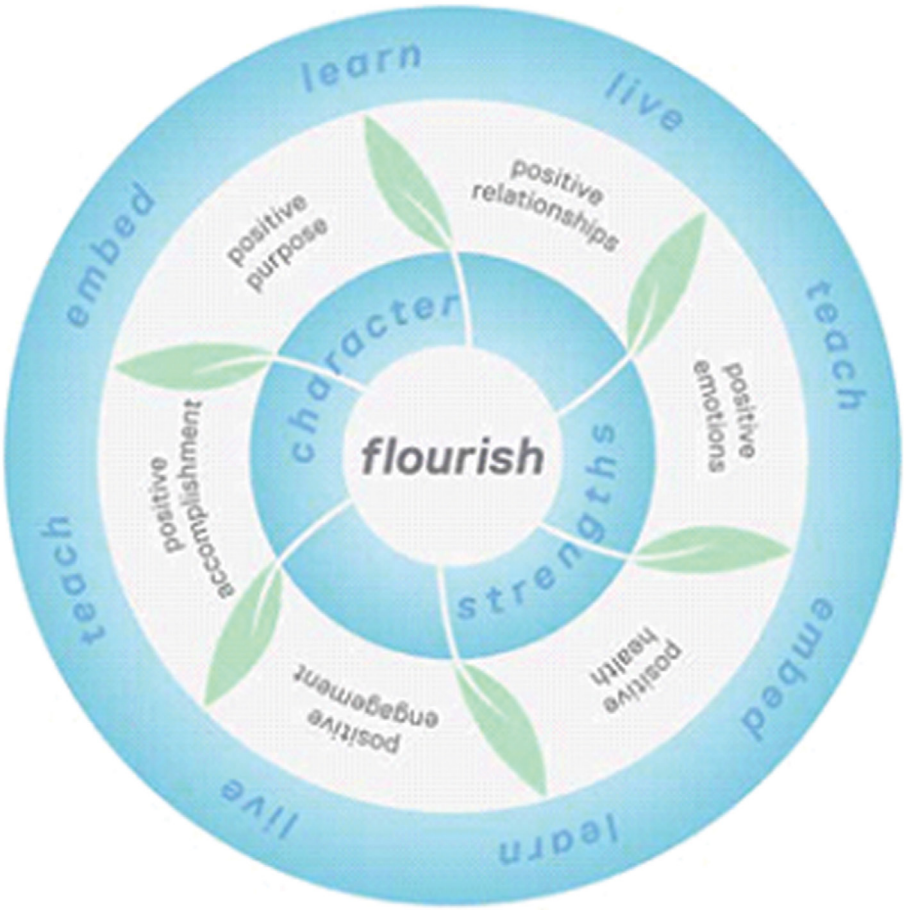
Description

The Positive Education framework is grounded in principles of positive psychology, pioneered in 2000 by Martin Seligman. Positive psychology is a strengths-based approach to understanding "what makes life worth living" and focuses on positive experiences, such as happiness and joy and positive traits like gratitude and resilience (Positive Psychology Program, 2019).

Interventions grounded in positive psychology have shown promise in improving education and health. A meta-analysis found that positive psychology interventions increased subjective well-being, psychological well-being, and decreased depression in individuals (Bolier et al., 2013). At follow-up, small but still significant positive effects sustained for subjective well-being and psychological well-being. The Positive Education framework builds upon the promise of positive psychology.

The framework was developed by Seligman with and for a primary school in Australia, the Geelong Grammar School (GGS), in 2006 (Figure 1.1). Since then, GGS has fully embraced and integrated Positive Education in all aspects of the school. Now at GGS, all new teachers receive a four day positive education training prior to starting their position. In addition, staff receive an annual one-day refresher course. The school also provides opportunities for parents to learn about positive education. This initiative at Geelong has led to the creation of the Institute of Positive Education. At the time the report was written, the Institute has trained over 10,000 educators at 600 schools around the world.

Positive Education has been implemented in multiple national contexts, including Australia, Mexico, and Israel. It is also being implemented across a wide range of age groups, from preschool children to university students. It is an "approach to education that blends academic learning with character and well-being, preparing students with life skills such as grit, optimism, resilience, growth mindset, engagement and mindfulness amongst others" (World Government Summit, n.d.).



SOURCE: Geelong Grammar School

Figure 1.1 Model for Positive Education

Summary of evidence

Academic outcomes

Interventions that apply the Positive Education framework to improve academic achievement have been implemented worldwide. In Bhutan, a small Himalayan country, the focus is on Gross National Happiness instead of Gross Domestic Product. The emphasis on happiness is reflected in the education system. The Ministry of Education developed a Gross National Happiness curriculum for students in grades 7-12. The curriculum focuses on ten positive life skills. Teachers are trained to integrate the positive life skills into existing school subjects and into the way they provide student feedback. An evaluation of the curriculum found that treatment schools reported more gains in standardized test scores than control schools over a period of three years. The change was the equivalent of increasing from the fiftieth percentile to the sixtieth, which also corresponds to a full academic year gain. This difference was sustained one year after the intervention.

In Israel, researchers developed a classroom-level program (the Maytiv school program) with a focus on four elements of the PERMA framework of well-being: positive emotions (addressing emotional expression and regulation, empathy, and positive thinking); engagement (cultivating interest in activities); positive relationships (including positive communication with peers and adults, and encouragement of acts of kindness); and achievement (identifying and pursuing goals) (Shoshani & Slone, 2017b). The program included two 90-minute introductory sessions and 15 bi-weekly 90-minute lessons. A longitudinal randomized controlled trial found that middle school students in the intervention condition reported significant increases in GPAs over two years, whereas, students in the control condition reported no changes in GPAs during the same period of time (Shoshani, Steinmetz, & Kanat-Maymon, 2016). The effect was of medium size (*Cohen's d*[1] = 0.30). The intervention was randomized at the classroom-level. A total of 70 classrooms were included in the study with 35 of them receiving the intervention. The classrooms that were in the control condition receive the intervention after follow-up data were collected. Four waves of data were collected: pre-test, post-test, eight months after intervention, and 12 months after intervention (Shoshani et al., 2016). In Peru, the Ministry of Education partnered with the Positive Psychology Center at the University of Pennsylvania to conduct a large-scale, 694-school, randomized controlled trial of a well-being curriculum grounded in Positive Education. The curriculum was called Paso a Paso and it was designed for students in grades 7-12. The longitudinal evaluation of Paso a Paso found that intervention schools increased in standardized test scores overtime in comparison to control schools (effect size was modest, *Cohen's d1* = 0.19). In addition, this evaluation found that gains in connectedness, perseverance, engagement explained the increases in academic achievement found in the intervention schools.

Social and psychological health outcomes

From 2014 through 2016, the Australian Research Council funded a three-year, longitudinal study of the Geelong Grammar School's positive education program[2] and tracked a cohort of Grade 9 and 10 students. Grade 9 students in the program, relative to comparison students attending schools that did not have a positive education program, experienced decreased depressive and anxiety symptoms, increased life satisfaction, positive emotions, and engagement. Students also reported using well-being strategies taught in the program to respond effectively to everyday life events. Grade 10 students who attended school with the positive educational program reported increased levels of growth mindset, hope, and better social relationships and physical health in comparison to control students at the end of the school year. The study did not collect follow-up data beyond post-test to assess sustained effect.

[1]Cohen's d is a measure of standardized difference between two means.

[2] Australia Geelong Grammar School (https://www.ggs.vic.edu.au/School/Positive-Education/What-is-Positive-Education)

At Universidad Tecmilenio[3] (UT), a private, nonprofit university in Mexico, university leadership has declared UT a "Positive University." As such, the university has a strong emphasis on happiness and well-being in all members of the university, from leadership to teachers to staff. The university requires students to take a course called "Introduction to Positive Psychology". In a study that collected pre and post-intervention survey data, students who took the course showed statistically significant increases in well-being outcomes, as well as mindfulness and gratitude, at post-test. Again, additional data were not collected to examine the longer-term effect.

A recent evaluation of the Maytiv program in Israel was found to be effective at improving emotional and behavioral health outcomes in preschool children. The study was conducted with 316 preschoolers from 42 different preschools in northern Israel (Shoshani & Slone, 2017a). The experimental design included a no-treatment wait-list control group. The intervention group received eight modules in positive psychology adapted to young children. Assessments were conducted at the beginning and end of the school year. Student-reported measures included positive emotions, life satisfaction, and behavioral self-regulation. Parent-reported measures included children's positive emotions, affect, and mental health problems. In addition, teachers were asked to assess the children's learning behaviors. Students in the intervention condition reported higher levels of positive emotions, life satisfaction, and empathy from pre-test to post-test. No differences were observed in the control group. Similar patterns were found in parent-reported positive emotions and teacher-reported learning behaviors. However, the program did not have an impact on parent-reported mental health problems. Both groups reported similar levels of increases in mental health problems from pre-test to post-test. Given the importance of religion in the region, it is worth noting that the authors specifically excluded ultra-orthodox religious schools, and also mentioned that religious stories, though a small part of the curriculum, may make the program less appropriate for students from other cultural backgrounds.

Finally, Lambert and colleagues (2019) conducted a quasi-experimental study to evaluate the effectiveness of a positive psychology intervention on improving social and emotional health among university students studying in the United Arab Emirates (UAE). The 14-week intervention included six modules to cover topics such as positive emotion, positive relationships, and positive self (Lambert, Passmore, & Joshanloo, 2019). Two-hundred sixty-eight university students of diverse nationalities participated in the study (39 nationalities represented) and the majority were Muslim (77.61 percent). Most were foreign students attending university in the UAE. One hundred fifty-nine students were in the experimental condition because they were enrolled in an Introduction to Psychology class. Students in the control condition were not unenrolled in the class (sample size was 108). Three waves of data were collected: pre-test, post-test, and three-month follow-up. After controlling for pre-test scores, the participants in experimental condition reported greater levels of social and emotional health (e.g., positive affect, self-esteem) than did those in the control condition (effect size was Cohen's d = .40). This is one of the few studies that have examined the impact of positive education interventions on social and emotional health on Muslim students in the MENA region.

Strength of evidence

Positive education interventions have been implemented across the globe, in Asia, the Middle East, Australia, and Latin America with a variety of student populations, from preschoolers to university students.

[3] **Universidad Tecmilenio** (http://tecmilenio.mx/en/node/1199#)

The fact that positive education interventions have been found to produce significant improvement in education and health across multiple cultural contexts suggests that the framework of positive education is generalizable. Moreover, it appears to be relevant across different developmental stages. In addition, multiple longitudinal evaluations utilizing RCTs with large sample sizes have consistently found positive effects of such interventions on youth educational and health outcomes. However, variations in the interventions need to be more carefully examined in future research to identify the "active ingredients" of positive education interventions.

Implementation

Each of the three examples of positive education interventions included lessons learned related to implementation. At Geelong Grammar School in Australia, one important lesson learned was that student-teacher connections were important to young people. Similarly, Shoshani and Slone (2017a) suggested that future research on examining the effect of the Maytiv preschool program should consider the teacher-student relationship as a potential moderator. The report also emphasized that students valued positive education most when they could see its relevance to their real-world experiences and were actively involved in the learning process. Lastly, the quality of the teaching matters. The quality of the teachers delivering the program made a difference in how the program was perceived by students. At Universidad Tecmilenio in Mexico, the main lesson learned was the importance of full integration throughout the university. Beyond these evaluations of specific positive education interventions, there are broader recommendations in the literature that discuss issues related to implementation. Martin (2016) shared the following recommendations:

- Appropriate differentiation of positive constructs – clear definition of positive education constructs
- Appropriate research designs to determine ordering of positive constructs – use longitudinal and experimental research designs to examine causality
- Inclusion of objective learning and achievement data – obtain data on grades, attendance from schools instead of self-reports from students

School and district-level: Social-emotional learning

Similar to positive education, social and emotional learning (SEL) purposefully connects social and emotional development to educational practice. School-based SEL programs enhance students' academic achievement and reduce behavioral and emotional health problems by supporting students' competence in self-awareness, self-management, social awareness, positive relationships with others, and responsible decision-making (Competence, Confidence, Connection, Character, and Caring).

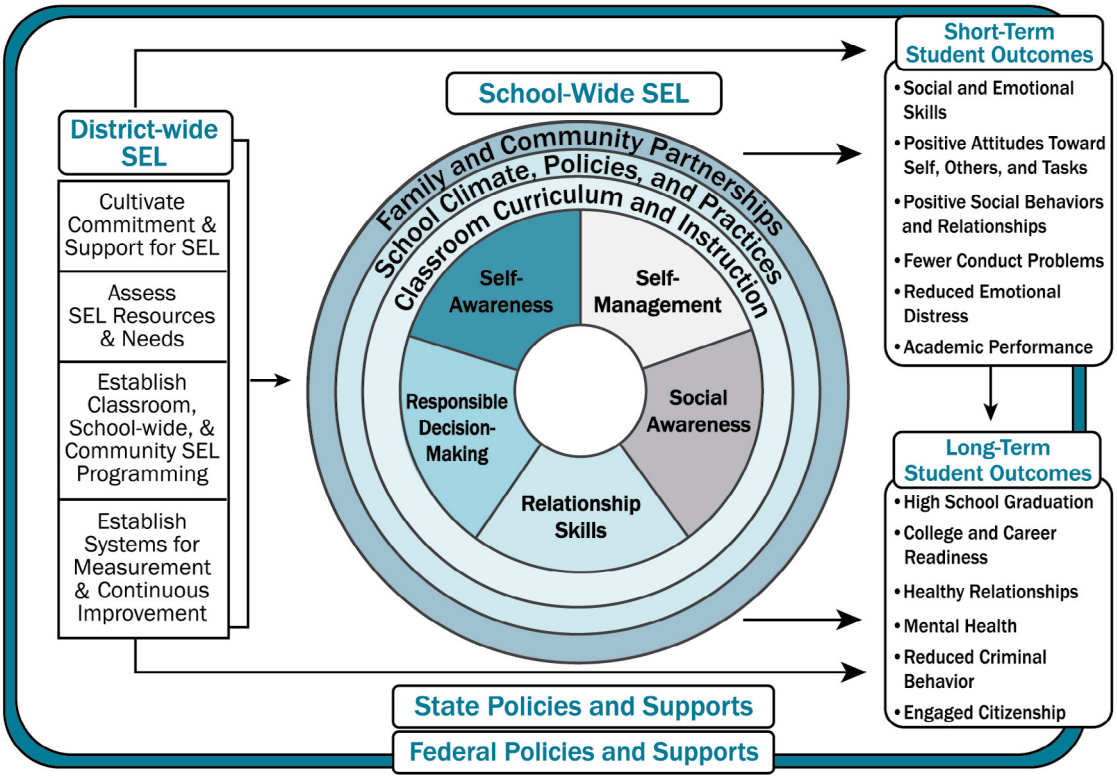
Description

Social and emotional learning (SEL) represents a public health approach to education because it implements actions that are population-based (Greenberg, Domitrovich, Weissberg, & Durlak, 2017). SEL is hypothesized to actively promote health and prevent problems rather than intervening after they have emerged. SEL also works at two levels classic to public health: vertical and horizonal integration. Vertical integration requires the intervention to be universal first, in other words, the intervention is available for all students. Then, a more targeted intervention is available to address the needs of higher-risk students. But public health also assumes a horizontal integration in which the intervention is integrated across and throughout the entire system. Horizontal integration is similar to Bronfenbrenner's bio-ecological systems approach, which recognizes the importance of tackling a problem from various levels of influence, from the individual to school to district.

Thus, SEL places an emphasis on affecting student outcomes through multiple levels of intervention: (1) classroom-level strategies, such as training teachers to teach social-emotional skills; (2) school-level strategies such as school policies around restorative discipline or service learning; and (3) district-level strategies to develop SEL standards (Greenberg et al., 2017).

The Collaborative for Social and Emotional Learning (CASEL) is an example of school and district-level SEL strategy (Meyers et al., 2015; Oberle, Domitrovich, Meyers, & Weissberg, 2016). At the classroom level, CASEL provides professional development to promote student social and emotional learning, implement evidence-based SEL interventions, and use data to monitor and improve the process.

At the school-level, CASEL forms a Social and Emotional Learning Leadership team tasked with creating a vision, developing goals, and assessing needs and resources. At the district-level, the goal is to standardize social and emotional learning priorities across the district and gain buy-in from district administrators (Mart, Weissbert and Kendziora, 2015). School-based programs are more likely to be successful when they are aligned with district priorities and have the support of multiple stakeholders, including district administrators, school boards, and teacher unions (Mart et al., 2015). A review of district-level adaptations of SEL found that in the first three to four years, SEL programming and alignment at the district-level enhanced students' academic performance and reduced disciplinary referrals (Kendziora & Osher, 2016).



SOURCE: Greenberg et al, 2017

Figure 1.2 Social and Emotional Learning

Summary of evidence

Academic outcomes

Social and emotional learning interventions have shown a promising impact on student academic performance. A 2011 meta-analysis of school-based, universal social and emotional learning programs included 213 schools and 270,034 students ranging from kindergarten to high school in age (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). In this analysis, there was a significant 11-percentile-point gain in academic achievement in the SEL intervention groups. It is important to note that only 16 percent of studies included in the review measured academic outcomes.

Another meta-analysis by Sklad and colleagues in 2012 examined 75 studies on universal, school-based social, emotional or behavioral programs. Participants in SEL programs were associated with significant improvements in academic achievement and it was measured by various indicators including grades, standardized test scores, reading achievement, and teacher's ratings. In addition, the largest sustained effects at follow-up were for academic achievement. A more recent meta-analysis published in 2017 that focused on follow-up effects, measured at six months to 18 years after the intervention, found improvements in graduation rates in the studies that reported them (Taylor, Oberle, Durlak, & Weissberg, 2017). Furthermore, the gains in graduation rates did not depend on student's ethnicity or socioeconomic background or school location.

Social and emotional health outcomes

A number of social and psychological outcomes have been examined in the research on the effectiveness of SEL programs. Participation in SEL programs was associated with statistically significant reduction in conduct problems and emotional distress (Durlak et al., 2011).

Similarly, Sklad and colleagues (2012) found improvements in all six social and psychological health outcomes in evaluations of SEL programs: social skills, antisocial behavior, substance abuse, positive self-image, mental health and prosocial behavior (Sklad, Diekstra, Ritter, Ben, & Gravesteijn, 2012). Comparing effect sizes at post-test and follow-up, immediate effects were stronger than more distal effects for all measures except for substance abuse, for which the effect lessened. Finally, another meta-analyses of 82 studies of school-based SEL interventions found that students in the intervention group reported significantly higher levels of positive social behavior and academic success, and lower levels of conduct problems, emotional stress, and drug use than their counterparts in the control group (Taylor et al., 2017). The results did not change based on ethnicity, socioeconomic status or school location. Finally, a recent quasi-experimental investigated the effect of a SEL intervention on prosocial skills among primary school students in Lebanon (Hassan & Mouganie, 2014). 80 students attending two upper-middle class private schools participated in the study with 29 students in the experimental condition. The 9-week intervention focused on social decision making and problem-solving skills. Teachers who implemented the intervention received three training sessions led by the researchers prior to implementation. Students in the experimental group reported higher levels of prosocial skills at post-test in comparison to pre-test. However, students in the control group did not report any differences in prosocial skills between pre- and post-test.

Strength of evidence

As with previous meta-analysis of large intervention efforts such as those reported in the positive education section, interventions, evaluation methods, and measures vary greatly in the SEL intervention literature. Across studies, concerns about limited follow-up data, implementation integrity, and lack of reporting on and analysis of sociodemographic variables were common.

Sklad and colleagues (2012) noted that follow-up assessment was typically conducted within six months from the end of an intervention. Thus, long-term impact of SEL interventions is yet to be determined. Durlak and colleagues (2011) also noted the small number of studies (15 percent of studies in their analysis) that reported on follow-up assessment to examine sustained impact of SEL.

As part of their meta-analyses, Sklad and colleagues (2012) examined outcomes related to intervention features and found the following: programs of short duration (i.e., less than one year) had higher immediate effect on social skills than longer duration programs. They found no significant differences in outcomes when comparing teacher-facilitated programs to programs facilitated by other trainers. In addition, there were no statistical differences in impact between programs that focused on a specific outcome compared to more general SEL programs. Finally, SEL programs had equivalent effects at all grade levels, and across rural, urban, and suburban schools (Durlak et al., 2011).

Lastly, reporting on socio-economic factors and ethnicity was inconsistent. In the Skald meta-analysis, ethnicity was only reported in 48 percent of the studies. Of the studies that reported ethnicity of participants, 44 percent of the study samples were White. In terms of national-level variability, Sklad and colleagues (2012) compared U.S. studies to non-US studies and found no differences in outcomes. Understanding how SEL programs may or may not differentially affect students from different ethnicities or socio-economic backgrounds is a critical gap in the SEL intervention research. Additional research is also needed to examine the cultural validity of SEL interventions, as implementation of these has reached a global scale (Wigelsworth et al., 2016).

Implementation

The literature on implementation of SEL provides important considerations for future implementation efforts. Literature on implementation of SEL provides important considerations for future implementation efforts. In their meta-analysis of SEL programs, Durlak et al. (2011) evaluated each program based on the SAFE method. The method outlines the use of a sequenced, step-by-step training approach, active forms of learning, focused time on skill development and having explicit learning goals. Programs that were coded as SAFE, including all four components, had significant effects on all outcomes of interest. In comparison, programs that did not meet the SAFE standard had significant effects on only three outcomes: attitudes, conduct problems, and academic achievement. The majority of studies indicated that a program manual was not used or was not available. Furthermore, there is a gap between research and practice (Durlak et al., 2011). Research supporting evidence-based practices is not disseminated widely to policy makers and practitioners. Durlak and colleagues (2011) wrote about the importance of providing research support to schools (1) to identify evidence-based programs, (2) to implement the programs with high fidelity, (3) to conduct effective evaluation that includes data collection and analysis methods that can be sustained past the formal evaluation period. RAND researchers have developed a searchable database for SEL assessments (https://www.rand.org/education-and-labor/projects/assessments.html). Durlak et al. (2011) also recommended documentation and analysis of the costs and benefits of SEL programs. Findings from costs and benefits analysis can provide evidence to secure support from federal, state, and local government. Commitment from government agencies is needed to sustain effective SEL programs system-wide (Taylor et al., 2017).

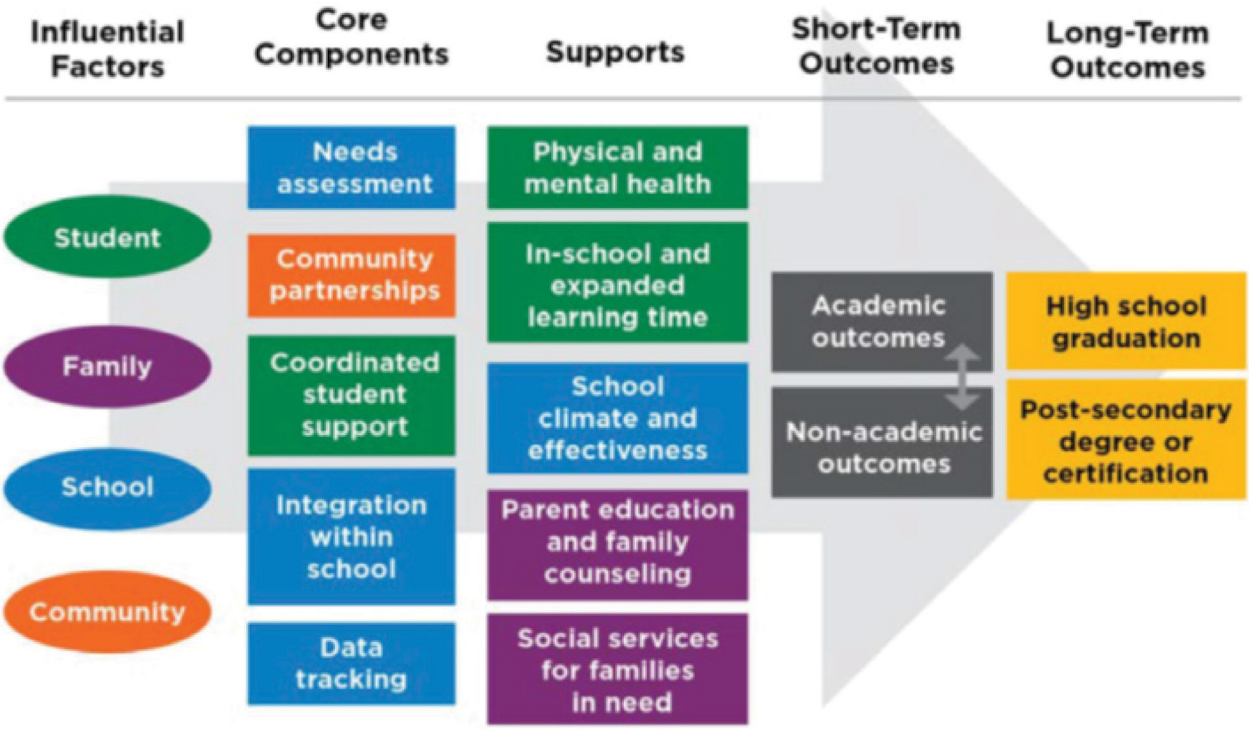
Community-level: Integrated student supports

While positive education frameworks and SEL tend to rely on more of the school-level and district-level interventions as core to the activities, family and community-level influences are also key to promoting positive educational and health-related outcomes in youth. Integrated student supports (ISS) model provides comprehensive services to students and their families to meet students' academic and non-academic needs, which in turn, is hypothesized to improve academic achievement (Competence and Connection). Although most interventions applying the ISS model are school-based, they take community-level influences (e.g., neighborhood characteristics, needs of community members) into consideration and actively involve community organizations and community members.

Description

Applying the theories of positive youth development (Benson & Scales, 2009; Lerner et al., 2003) and Bronfenbrenner's bioecological systems model of youth development (Bronfenbrenner & Morris, 2006), the integrated student supports model (ISS) is designed to support the overall development of students, including educational, physical, behavioral, and social well-being (Dryfoos, 2005). The ISS model recognizes that students' unmet non-academic needs (e.g., psychological and physical health) have negative effects on students' academic achievement. Schools that apply the ISS model provides a variety of services to students and their families, including but not limited to academic supports, mental and physical health services, legal aid, and housing assistance. To provide such a wide range of services, the ISS model relies heavily on partnerships with community-based organizations. The core components of the ISS model are (1) needs assessment, (2) coordinated student support, (3) community partnerships, (4) integration within schools, and (5) data tracking (see Figure 1.3 for ISS Logic Model (Moore et al., 2017).

Partnership and strong coordination within and outside of school are critical to the success of the ISS model. For example, administrators, teachers, and student support staff (e.g., social workers) work together to identify needs of students and provide coordinated services (Keth, 1996). The ISS model brings a multidisciplinary team together to fill knowledge gap that often exists when administrators, teachers, and student support staff work in silos (Dryfoos, 2005). The multidisciplinary approach also helps to ensure that students are receiving *all* of the services they need and that resources are not being wasted to provide overlapping services. Coordination with service providers outside of school is essential as well. Since the goal of the ISS model is to coordinate different human, health, and social services to students and families, schools need to partner with community-based organizations to offer services that are not available at school (Holtzman, 1997). Strong partnership with community-based organizations can also facilitate the sharing of information and resources that can be helpful to both the schools and community-based organizations (Sanders, 2003).



SOURCE: Moore et al., 2017

Figure 1.3 Integrated Student Supports Logic Model

Summary of evidence

Academic outcomes

Recent research provides evidence to support the short-term and intermediate effect of the ISS model on student educational outcomes. Child Trends recently published a report on the effectiveness of the ISS model. It summarizes evidence from 21 evaluations of ten programs that utilize the ISS model. All evaluations either employed random assignment of intervention or a quasi-experimental design that included a matched comparison group. Evaluations assessed both student- and school-level outcomes; however, student-level outcomes were measured more often than school-level ones. Overall, the findings for academic outcomes, such as GPAs, attendance, and graduation, are mixed. Some evaluations produced positive effects, and some did not find significant impact on academic achievement. Of the programs evaluated, City Connects most consistently produced positive effects. Participation in City Connects was associated with higher GPAs in middle and high school students, and higher likelihood of high school graduation (City Connects, 2018; Moore et al., 2017).

During the academic year 2016-2017, City Connects was implemented at 84 schools serving close to 30,000 students in the United States. City Connects includes the five core components of ISS with its needs assessment component including both individual- and classroom-assessment. Participation in City Connects is associated with improved academic achievement; participants scored higher on standardized tests than comparison students in Grades 6, 7, and 8 (Walsh et al., 2014). A recent study applied propensity score matching to examine the effect of City Connects on high school dropout. Participants were less likely to drop out of high school than comparison students. The probabilities for drop out for intervention group and comparison group were 9.2 percent and 16.6 percent respectively (Terrence et al., 2018). The program had a greater impact on students from disadvantaged backgrounds, such as non-native English speakers (City Connects, 2018). In addition to influencing student outcomes, City Connects had an impact on teachers and their teaching. Survey data showed that teachers gained a better understanding about the non-academic needs of students and developed more positive relationships with students as a result of conducting the individual- and class-level needs assessment (Sibley et al., 2017). A positive relationship with an adult at school was identified as a significant factor to supporting high school graduation in a recent literature review (Zaff et al., 2017). Finally, a recent benefit-cost analysis found that for every dollar invested in City Connects, the return on investment was three dollars. The benefits mostly came from reduction in high school dropout and improvement in academic achievement (Bowden et al., 2015).

In addition to City Connects, the full-service community school model is another application of ISS that has received attention. Most full-service community schools include three types of services: (1) core instructional program to meet high academic standards, (2) enrichment activities to expand students' learning and support students' cognitive, social, emotional, and physical development, and (3) comprehensive health and mental health services to students and families (The children's Aid Society, 2001). The model of full-service community school can be applied to different types of institutions including public schools, private schools, and charter schools. Full-service community schools partner with community-based organizations to provide a wide range of health and mental health services to students and families.

The Coalition of for Community Schools (CCS) summarized evidence for the Full-service community school model in two reports (2001; 2003). Unlike the report produced by Child Trends, the CCS reports did not select evaluations that had rigorous methodologies. Evaluations ranged from randomized controlled trial to pre/post design. The 2001 report included 49 community school programs and the 2003 report included 20 community school programs at the national,

state, and local levels in the U.S. (Blank, Melaville, & Shah, 2003). Over 70 percent of the evaluations included in these two reports found that participation in full-service community schools was associated with better academic outcomes (e.g., higher standardized test scores, higher GPAs, improved attendance). Furthermore, two evaluations of full-service community schools in Texas and California reported in the 2003 report found that students from low income families improved two times more than students from high income families (Blank et al., 2003). A recent study of an elementary full-service community school in New York found that students who attended the school reported higher standardized test scores and GPAs, and were more likely to take advanced placement courses than their counterparts who attended a conventional elementary school in the same district. Although the study was not designed as a randomized controlled trial, the conventional school in the study shared similar student characteristics as the intervention school (Caldas, Gomez, & Ferrara, 2019).

Social, psychological, and behavioral health outcomes

In comparison to academic outcomes, fewer evaluations have assessed the impact of ISS on health outcomes. Most evaluations have examined the effectiveness of ISS on improving social, psychological, and behavioral outcomes. The Child Trends report found that of the evaluations that included behavioral outcomes, four out of 11 found reduction in behavioral problems such as substance use and pregnancy. The CCS report (2001) found that 11 of the 49 evaluations showed decreases in substance use, teen pregnancy and behavioral problems among students who attended full-service community schools. Furthermore, three evaluations found that full-service community schools reduced barriers and increased students' access to physical and mental health services and preventive care (Blank et al., 2003).

Strength of evidence

There is emerging evidence to support the positive impact of ISS on student educational and health-related outcomes. More importantly, preliminary findings suggest that students who are most vulnerable to academic underperformance and poor health appear to benefit the most from ISS interventions. These findings are particularly promising as ISS is often implemented to address educational disparities (Honda & Liu, 2015). For example, City Connects was designed to reduce disparities affecting students attending schools in high poverty urban neighborhoods in the United States (City Connects, 2018). In addition to improving student outcomes, preliminary evidence suggests that ISS has the potential to positively affect teacher outcomes. Teachers from schools that implemented City Connects reported more positive relationships with students. More in-depth analysis of how ISS influences teacher-student relationships and larger school climate is an important next step. ISS is hypothesized to create systematic change and positive impact on system-level processes such as school climate which has significant implications to promoting student academic achievement (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). The next phase of research on ISS need to focus on unpacking *how* participation in ISS interventions is related to better educational and health outcomes; and *which of the five components* of ISS interventions influence student positive development.

Few limitations in the research should be noted. First, there is no one definition or one model of ISS. As illustrated earlier, multiple applications of ISS exist (e.g., City Connects, full-service community schools). The structure and the types of services available are highly context dependent (e.g., funding, support from local community). More in-depth analysis is needed to understand how the variability influences student outcomes. As noted in the review

papers, few evaluations of full-service community schools employ random assignment or rigorous statistical models to account for baseline differences between intervention and comparison students (e.g., propensity score matching). Without a rigorous research design to eliminate extraneous variables and baseline differences between experimental group and matched comparison group, it is difficult to support the notion that participation in full-service community schools causes gains in educational achievement and improves health. In addition, few evaluations included outcomes other than academic achievement despite the fact that ISS is designed to improve student development in multiple domains. Future evaluations need to assess the impact of full-service community schools on outcomes such as physical, mental, behavioral, and social health more thoroughly.

Implementation

As with the other four frameworks in this chapter, implementation contributes to the success of ISS. The Child Trends report included a synthesis of five implementation studies of ISS. The implementation studies found that programs that were implemented with high fidelity (implemented more of the five core components) reported stronger positive effects on student outcomes. Similarly, the CCS (2003) report identified quality of the program (e.g., types of activities and services available, student's participation, length of operation) as a correlate of program effectiveness. In addition to fidelity and quality, implementation studies have identified flexibility as an important factor. Schools need to adjust and adapt to meet the needs of students and communities. Finally, stakeholders need to allocate resources for continuous quality improvement and evaluation activities. Progress should be monitored carefully to ensure high fidelity and to document successes and weaknesses (Holtzman, 1997; Tagle, 2005).

Implementation Element	Activities
1.Needs assessment	• Identify strengths and needs of all stakeholders (e.g., school, teachers, students, community). • Invite representatives from stakeholders to conduct the assessment. • Align services to needs of all stakeholders.
2.Strong partnership between school and partnering organizations.	• Seek feedback from partners and engage partners in decision-making process. • Hire partnership coordinator who are knowledgeable about the community. • Regular meetings and opportunities for partners to share feedback.

3.Strong stakeholder involvement.	• Identify key leaders and invite them to participate actively (e.g., advisory board). • Conduct listening session to seek feedback and build consensus among different stakeholders.
4.Identify key champions of the school.	• Identify key supporters of the school and support their work to build and maintain relationship. • Provide teachers and staff at school with adequate support and training to implement new programs.
5.Continuous quality improvement to monitor progress and make adjustment.	• Develop a data collection system to collect data from multiple stakeholders (e.g., students, teachers, parents, partnering organizations). • Meet regularly to discuss progress and make data-informed decisions about resources and services. • Hold all stakeholders accountable.
6.Process and outcome evaluation.	• Develop a logic model to clearly articulate the rationale behind the school. • Collect data systematically from all stakeholders. • Assess mediators, moderators, and outcomes in multiple domains. • Share results with all stakeholders including students and families.

SOURCE: Adapted from Holtzman, 1997; Tagle, 2005

Table 1.4. Elements of Effective Implementation

Summary

For each framework, we present a summary of evidence, discuss the strength of evidence, and summarize issues related to implementation. Overall, the frameworks aim to improve youth well-being across multiple ecological systems affecting individual, school, district, and community-level factors. Growth mindset and mindfulness interventions teach students skills to change their attitudes and behaviors. Positive education and SEL guide the development of school- and district-level interventions. Finally, the integrated student supports (ISS) model is designed to transform schools into institutions where students, families, and members from the nearby community can receive integrated human, social, and health services.

Although research on the effectiveness of interventions guided by these frameworks have included participants from diverse countries, and ethnic and socio-economic backgrounds, very few studies have investigated the intervention effect on children and adolescents from the Middle East and North Africa (MENA) region. Of the five frameworks reviewed, only positive education and SEL have shown some promise in improving health outcomes in youth in the MENA region. Moreover, there is a lack of research on how religion, an important dimension of human diversity, influences the implementation and effectiveness of these interventions. Given the significance of religion on promoting positive youth social, emotional, and psychological health (Abdel-Khalek, 2011; Cotton, Zebracki, Rosenthal, Tsevat, & Drotar, 2006; Wong, Rew, & Slaikeu, 2006), future research needs to investigate how religious beliefs and practices can impact these interventions.

The research mostly affirms the effectiveness of interventions that are guided by these frameworks. However, evidence suggests that most of the gains are short-term because long-term effects have not been rigorously tested. With the exception of school-based SEL interventions and the ISS model, few interventions have addressed multiple outcomes across both educational and health domains. To demonstrate the utility of these frameworks in connecting education and health, interventions applying these frameworks need to explicitly identify and test pathways that lead to both short-term and long-term educational and health outcomes in youth.

Although interventions affect student well-being at different system levels (from individual to community), issues related to implementation are similar (see Table 1.4 for Elements of Effective Implementation). For example, buy-in and support from school and district personnel, including district administrators and teachers, and community members are important to achieving high fidelity. Sustainability is another critical component of implementation that requires further investigation. To produce positive, long-term outcomes in student well-being, interventions need to be integrated within the school system. The SEL and ISS models are the only frameworks that specifically address the issue of integration and describe mechanisms to promote system-level changes. In addition to influencing students who are receiving the interventions, researchers and practitioners need to pay attention to, and leverage, potential ripple effects to produce positive change within the entire school system.

CHAPTER TWO

Global case examples promoting health and education for youth well-being

Identification of case examples & data collection procedure

We developed six, brief global case examples to illustrate how education and health are being integrated into policies and programs to improve youth well-being. The six examples represent a mix of national and city-level cases: Jordan, Kuwait, Santa Monica, U.S.A., New Zealand, Ontario, Canada, and Singapore. We also included a shorter description of national policies and programs in Oman and Denmark to present emerging innovations these nations are pursuing. We selected these cases to maximize diversity in geographical distribution, size of community (national vs. local), type and breadth of effort, and timeframe. We purposefully selected three countries from the Middle East and North Africa (MENA) region to provide examples that are socially and culturally comparable to the Qatari context. Kuwait, Oman, and Qatar are member countries of the Gulf Cooperation Council (GCC). Jordan provides an example of the Arab youth population outside of the GCC. In collaboration with local and international non-profit organizations, Kuwait's and Jordan's ministries of education developed, implemented, and evaluated school-based interventions that aim to improve student educational and health outcomes. Santa Monica implemented a program at the city-level focusing on the well-being of youth and adults, a program that is not housed or limited to the school system. Ontario and New Zealand each implemented comprehensive policy initiatives that aim to support a focus on well-being in schools. Singapore implemented a 21st century competencies framework to include a social-emotional learning curriculum. Singapore is similar to Qatar in size, and both share similar rapid economic growth and educational achievement. They are considered educational hubs for their respective regions (Knight, 2011). Oman recently developed the first child well-being index in the Middle East to assess the health and well-being of children living in Oman, in comparison to other countries. Finally, Denmark recently implemented a large-scale reform of their education system with the goals of improving academic achievement and student health.

We reviewed both the academic and grey literature to gather information about each case example. First, we used web searches to identify and capture background information about specific policies and/or programs in each case. For each case example, we used search terms such as "youth well-being," "school-based prevention/intervention," "education and well-being," and "education and health" to identify policies and programs. We also visited website of each country's ministry or department of education and health to identify policies and programs that are related to education and health. We searched academic databases to locate peer reviewed studies of these policies and programs. Finally, we conducted 15 key interviews to supplement our case reviews. For each case example, we conducted two to three interviews with experts who had knowledge about the development, implementation, and/or evaluation of the policies and/or programs. The interviews focused on topics such as the rationale behind the efforts, key insights about facilitators and barriers to success, and lessons learned about implementation (see Appendix 1 for interview guide). All interviews were audio-recorded and transcribed verbatim. Each transcript was then read and coded by one team member. The focus of the coding was to extract information related to the design, implementation, and evaluation of well-being policies and programs.

For each case example, we first briefly describe the geography, demographic characteristics, and economic condition of each country or city with an emphasis on the youth population. Then we present a summary of national and local policies that aim to promote youth well-being through education and health. Finally, we summarize programs that are designed to improve youth educational and health-related outcomes, including a discussion on effectiveness and lessons learned related to implementation.

We conclude the chapter with an analysis of the case examples, using the frameworks described in Chapter 1, to illustrate the extent to which policies and programs are applying evidence and best practices from the existing literature.

Jordan

Background

Approximately 54 percent of Jordan's population of 9.7 million (2017), is under the age of 24 (World Bank, n.d.-a; UN Educational, n.d.). The 2017 Gross National Income (GNI) per capita was $3,980. GDP has increased five times since 2000; GDP was $40.07 billion in 2017 and was expected to increase by 2.5 percent in 2019 (World Bank, n.d.-a). Growth is expected to decline, however. Unemployment remains high and is especially problematic among youth (ages 15-24). In 2016, 38.5 percent of youth were unemployed with unemployment rate almost twice as high among young females (World Bank, n.d.-c). Seventy percent of youth who were eligible for secondary school were enrolled in school in 2014, a ten percent decline from 2010 (World Bank, n.d.-a; World Food Program USA, 2018). The recent Syrian refugee crisis has added extraordinary pressure to the Jordanian youth-serving health, educational, and social systems. Jordan has the second highest proportion of refugees in the world. In 2018, over 750,000 Syrian refugees lived in Jordan, and 50 percent of the refugee population are children (UN High Commissioner for Refugees, 2018). In collaboration with the United Nations Children's Fund (UNICEF), the Ministry of Education has implemented a number of school and community-based programs to meet the growing needs of refugees and Jordanian young people.

Youth well-being policy in Jordan – the Education Strategic Plan

The Ministry of Education (MOE) developed the Education Strategic Plan (ESP), 2018-2022, to improve the quality of education for all youth living in Jordan, including Syrian refugee children and adolescents. The plan focuses on improving early childhood education and vocational education, promoting equal access to quality education, and strengthening infrastructure to support quality education. ESP also recognizes the importance of youth overall well-being to promoting high educational attainment. One criterion of quality education is safe and stimulating school environment. More specifically, ESP calls for programs to support "the behavioral and psychological aspects of students." Programs include school meals for students from low income families, an anti-bullying campaign, life skills program, and extracurricular activities. In the section that presents youth well-being programs, we describe two programs (*Nashatati* and *Makani*) that contribute to meeting the goals set forth by the ESP.

Youth well-being policy in Jordan – Middle East and North Africa Life Skills and Citizenship Education Initiative

In 2015, UNICEF partnered with local and international NGOs and governments in the Middle East and North Africa (MENA) region to launch the Life Skills and Citizenship Education (LSCE) Initiative. The LSCE provides an important framework for youth well-being activities in Jordan. LSCE aims to address three interlocking challenges in the region: (1) poor quality of education, (2) declining economic growth and the high youth unemployment rate, and (3) weak social cohesion. LSCE pursues its goals through a framework to provide holistic,lifelong, and rights-based education in partner countries and providing technical support to partner countries to ensure successful implementation.

The LSCE framework includes 12 core skills in four dimensions of learning (see Figure 2.1). Students can acquire the 12 core skills through multiple systems ranging from formal educational institutions to informal community engagement. The involvement of and partnership among multiple systems –such as governmental agencies, schools, youth-serving organizations– is critical to the success of LSCE. Behavioral health (e.g., resilience) is included in the individual dimension of learning, and health education is one of the subject areas. The LSCE is being applied in Jordan through school-based programs like *Nashatati*, described below.

SOURCE: Life Skills and Citizenship Education Initiative Middle East and North Africa, 2019

Figure 2.1 Life Skills and Citizenship Education Initiative Framework

The Nashatati - a school-based intervention to improve SEL skills

In 2017, Jordan's Ministry of Education (MOE) launched the ***Nashatati*** (Arabic for 'my activities') program in public schools in partnership with UNICEF and Generations for Peace. The ***Nashatati*** program aims to improve SEL skills at the individual-level. Three of the four skill areas supported by ***Nashatati*** are cognitive skills, self-management skills, and civic skills, which match onto the social-emotional learning skills described in Chapter 1. ***Nashatati*** aims to improve educational and health outcomes through building competence, confidence, and character in youth.

The ***Nashatati*** program applies the LSCE framework and provides extracurricular activity opportunities to students as outlined by the Education Strategic Plan (ESP; 2018-2022).

The ESP makes a commitment to devote 20 percent of a student's learning time to extracurricular and after-school activities; the ***Nashatati*** program fills that time. The ***Nashatati*** program aims to improve students' social skills and reduce behavioral problems at school. It delivers life skills and health lessons to vulnerable students via quality after-school activities (see Figure 2.2; UNICEF Jordan). The program provides schools the flexibility to choose activities and curriculum that best match the needs of their students. Students participate in sports, games, story writing and sharing to improve literacy skills and social cohesion; they participate in voluntary activities inside and outside of school. The program promotes student empowerment through co-facilitator training. Two teachers and two student leaders at each school receive training and co-facilitate all ***Nashatati*** activities.

SOURCE: UNICEF Jordan

Figure 2.2 The Nashatati Conceptual Model

Impact

During the academic year 2017-2018, the pilot ***Nashatati*** program served 10,000 students aged six to 16 in 100 public schools in all 12 governorates of Jordan. A process evaluation collected focus group and interview data from teachers and students and found that students who participated in ***Nashatati*** improved in confidence and conflict resolution skills. The program doubled in size for the academic year 2018-2019. All 3,500 public schools in Jordan were expected to offer ***Nashatati*** in 2019-2020. The program is expected to expand to implement activities on Saturdays for both students and parents.

Barriers and facilitators of success

Based on discussions with interviewees and published reports, we identified some ways that this school-based intervention is most effective, and some challenges related to delivering services that improve both educational and health outcomes.

Barriers

Lack of explicit pathways connecting extracurricular activities to academic achievement. Although ***Nashatati*** aligns with the Education Strategic Plan to provide extracurricular activities to school-aged youth, the program does not specify how participation in extracurricular activities would improve educational outcomes. Indeed, the recent process evaluation only included social and behavioral health outcomes. It is unclear how participation in ***Nashatati*** is related to academic achievement. Some of the skills (e.g., problem-solving skills, communication, self-management) supported by ***Nashatati*** are similar to social-emotional learning skills discussed in Chapter 1. Thus, applying the SEL framework to specify how these skills can explain gains in educational outcomes would be an important next step.

Lack of infrastructure and resources at school. Some schools cannot support ***Nashatati*** due to lack of space and/or facilities appropriate for after-school programming. For example, some schools do not have a playground. The lack of appropriate facilities limits the reach of the program, possibly impacting schools from lower income communities disproportionately.

Facilitators

Adaptable curriculum. The early success of ***Nashatati*** can be attributed to the program's adaptable curriculum. Schools are encouraged to adjust the curriculum to meet the needs of their students and to complement their institutional culture. One interviewee shared that the curriculum was changed after receiving feedback from teachers. Schools felt that it was especially important to offer extracurricular activities to girls because "girls have fewer opportunities to participate outside of school." The extensive training provided to teachers, students, and principals also increase fidelity.

Strong buy-in from government. The partnership with the MOE is critical. One interviewee noted that the strong support of the MOE for the program stems from its alignment with the ministry's Education Strategic Plan to provide quality extracurricular activities to students. The MOE support is necessary to take the program to scale. With MOE support, ***Nashatati*** was able to double its capacity to 200 schools served by the second year of implementation. The goal is to offer ***Nashatati*** activities to all 350 schools in Jordan by the third year of implementation.

Capacity building. Building the capacity of the MOE and encouraging ownership of ***Nashatati*** are also important to sustaining the program's long-term impact. One interviewee shared that UNICEF intentionally chooses local NGOs as implementation partners to increase the sustainability of ***Nashatati***. In addition, she said that "it is important to partner with a variety of NGOs with different expertise to deliver different types of services to meet the needs of students from diverse backgrounds."

Makani – A community placed intervention to provide integrated supports

Makani ("my space"in Arabic) is another intervention example in Jordan that aligns with the Educational Strategic Plan. Although *Makani* is not based at school, it applies the integrated student supports model (ISS) in which children, families, and community members have access to comprehensive education and health services under one roof. Similar to schools that apply the ISS model, *Makani* relies heavily on partnerships with community-based organizations and support from families and community members. Services provided by *Makani* improve youth competence and confidence. *Makani* supports youth well-being through building strong connection between youth and their families and communities.

Makani addresses two priority areas of the ESP: improving vocational education and ensuring equal access to quality education. In 2015, UNICEF worked in partnership with local and international NGOs to develop and implement the *Makani* initiative to provide comprehensive educational, psychosocial, and health services to the most vulnerable children and youth in Jordan. The *Makani* initiative targets Jordanian children (five to 18 years old) and youth (19 to 24 years old) who are out of school, living with disabilities or affected by domestic violence. In addition, *Makani* centers located at informal tented settlements (ITSs) provide the same comprehensive services to Syrian refugee children and adolescents. *Makani* centers are guided by the following basic principles: (1) children should feel safe and secure at *Makani*; (2) a supportive environment that includes a wide range of activities and exposure to supportive staff; (3) all children and young people regardless of their class, gender, abilities, language, ethnicity, religion, and nationality should have equal access to services at *Makani*.

Makani centers are locally operated via the UNICEF partnership with local government and NGOs. UNICEF provides training to all facilitators and works closely with local NGOs to monitor the implementation of programs and track youth progress. To encourage participation from local community members and to ensure that services meet the local needs, each *Makani* center has a team of community outreach workers. They are tasked to increase awareness about the *Makani* center, identify children and youth who would benefit from the center's services, and educate community members about alternative education, psychosocial support, and healthy styles. Youth who have graduated from the center are encouraged to return to the center as youth peer educators. Finally, centers are encouraged to form a family protection committee in which adults and youth from the community participate to provide guidance and oversight to the center leadership. *Makani* centers serve as a place for community members to gather and discuss issues that affect children and youth; and more importantly, the centers provide resources for community members, including youth, to come up with solutions to these issues.

Makani centers provide services in four areas: (1) education, (2) psychosocial support, (3) youth empowerment, and (4) referral to specialized services (see Figure 2.3). Youth receive alternative education services with the goals of either helping students to receive official certification or helping students to catch up and prepare for formal education. *Makani* centers are accredited by the Ministry of Education and the curriculum intended to help students who have fallen behind meet the standards of UNICEF's Informal Education Framework and Curriculum. *Makani* centers located at ITSs also provide hygiene and health services to Syrian refugee children and adolescents.

SOURCE: UNICEF Jordan

Figure 2.3 Makani Model of Services

In the specific area of promoting youth well-being, *Makani* centers offer age-appropriate, structured, adult-supervised, and community supported activities to support children's and adolescents' emotional well-being, social well-being, life skills, and empowerment. For example, children and adolescents participate in recreational activities, receive psychosocial education about gender-based violence, and parents attend workshops to learn about best parenting practices. Older adolescents also receive the life skills program in which they learn about self-management, cognitive, social, and team work skills. The life skills program is highly interactive and youth friendly; it uses role play, sports, interactive theatre, self-reflection, and peer education to deliver the curriculum. After completing the life skills curriculum, youth have the opportunity to participate in youth-led activities.

The goals of these activities are to empower youth to participate in their community and to increase their self-efficacy. For youth older than 18, *Makani* also focuses on preparing youth to be economically independent through leadership training.

In addition to providing direct services, *Makani* centers make referrals to specialized services. Staff members receive training on the standardized referral protocol and specialized training on how to identify families and children who are in need of child protection and gender-based violence services. Staff are expected to be familiar with services available in the community and develop close partnership with them for referral. Referrals are made when families, children, and youth need services that are not available at *Makani* centers, such as psychological and legal services.

Impact

UNICEF works closely with each locally operated *Makani* center to monitor and evaluate services provided to families and children. Each *Makani* center is required to collect and report data on service delivery and performance. For example, service delivery indicators include the number of registered students and the number of sessions delivered. Performance data include pre- and post-intervention educational outcomes. Formal evaluation of Makani centers is yet to be completed; however, interviewees who were staff members responsible for implementing the Makani centers shared that they had witnessed positive changes in the youth who had received services at the centers and that the centers filled an important gap in the Jordanian educational system.

Barriers and facilitators for success

Based on discussions with interviewees and published reports, we identified some ways that this community-based intervention is most effective and some areas of improvement needed to enhance the integration of education and health.

Barriers

Lack of sustainable funding. Most recently, some *Makani* centers were closed due to insufficient funding (reducing the number from 227 initially to 120 centers). The centers located in Informal Tent Settlements (ITS) are particularly vulnerable because resources are often more limited. For example, an interviewee shared that *Makani* centers in ITSs often lacked qualified local community members to serve as facilitators in comparison to those located in host communities. Initially, *Makani* center were developed to address the educational gap experienced by Syrian refugee children. More recently, *Makani* has shifted its focus to partner with local NGOs to provide more services to Jordanian children and adolescents.

Fragmented services to youth and families. Although *Makani* centers are equipped to provide comprehensive services to youth and families, including educational and health-related services, interviewees shared that youth and families often only received one type of service, and were not aware of all the resources available to them. An interviewee informed us that in March 2019, UNICEF would change the service delivery model. Each child coming to a *Makani* center will receive all services (i.e., education, life skills, and child protection services) in one session. The goal was to improve service coordination and to ensure that families and youth receive all the needed services. In addition, the new service delivery model improved direct connection between education and health.

Facilitators

Strong support from local community, including youth. The inclusion of young people as peer educators and the family protection committee ensure that *Makani* centers are meeting the needs of the local community and empowering community members to engage in developing solutions to their most pressing problems. One interviewee said that "a youth participatory approach is important; [we] need to get feedback from young people and get young people involved in the process."

Comprehensive training and oversight. Facilitators at *Makani* centers receive comprehensive training and monitoring from UNICEF, which also provided technical support to centers regarding implementation and data collection. The resources from a large international organization made the initial launch of *Makani* possible. One interviewee shared that "facilitators who understand youth" are more successful.

Kuwait

Background

Kuwait, one of the six Gulf Cooperation Council members, shares borders with Iraq and Saudi Arabia. In 2017, Kuwait had a population of 4.1 million people (World Bank, n.d.-b); only about one third of the population are Kuwaiti citizens, however, and the remaining are foreign workers. Kuwait is considered a high-income country by the World Bank. In 2017,the Gross

National Income (GNI) per capita was $31,430; this was significantly lower than its highest level of $51,990 in 2013. Kuwait has reported a decline in Gross Domestic Product (GDP) since 2010 (The World Bank, n.d.-b).

Forty percent of the population is under the age of 24. Youth face unique challenges and opportunities in Kuwait: many are highly educated but appear to have a difficult time finding employment. Educational attainment is high: 98 percent of college-aged youth are enrolled in secondary school (World Bank, n.d.-b); and the highly educated generation has the potential to contribute significantly to Kuwait's human capital. However, many of them have difficulty securing jobs as a result of the recent economic downturn. Almost 15 percent of youth aged 15 to 24 were unemployed in 2018 (World Bank, n.d.-c). The high unemployment rate among Kuwaiti youth can have a ripple effect on the well-being of their family and community.

Youth well-being policy in Kuwait – the New Kuwait

The national development plan – the New Kuwait, aims to transform Kuwait into a financial, cultural, and institutional leader in the region by 2035 (New Kuwait, n.d.-b). It includes advancement in seven areas: global position, human capital, healthcare, living environment, infrastructure, economy, and public administration. The human capital area places a strong emphasis on empowering Kuwaiti youth and preparing them to become productive citizens. Some of the projects included in the human capital area focus solely on education: The National Learning Standards, the Integrated Education Reform Project, and the Teacher's License Project. Some mostly address issues of health disparities: The Endowment School for the Persons with Disabilities Project and the Kuwait Sports Club for the Disabled.

However, two projects intentionally connect education and health: the Bareec Center Project for Positive Thinking and Holistic Well-being, the Bareec University Center. We discuss the Bareec Center Project and Bareec University Center below.

To support the development of human capital, His Highness the Amir of Kuwait established the Ministry of State for Youth Affairs (MoSYA) in 2013. MoSYA established the National Framework for Youth Engagement and Empowerment and it was endorsed by the Council of Ministers of the State of Kuwait in 2013. The framework aims to promote holistic development of all young people and to support New Kuwait, the National Development Plan. It specifically calls for targeted and measurable interventions that will improve youth outcomes in four domains: educational and employment, social cohesion (e.g., health, well-being), leadership and civic participation, and creativity (e.g., innovation, culture).

The Youth Public Authority is tasked with implementing programs to empower and increase the capacities of Kuwaiti youth (Kuwait Youth Public Authority). It organizes educational, cultural, and scientific activities for youth; facilitates the participation of youth in local and international activities; promotes a national dialogue around youth well-being; creates and maintains a database of laws related to the well-being of Kuwaiti youth; and finally provides financial and technical support to youth centers. In 2017, there were eight youth centers in Kuwait. The goal is to have 40 youth centers in all Kuwaiti governorates during the next ten years. Youth centers are community-based centers where youth can have access to educational and health-promoting leisure activities. For example, some youth centers offer football leagues, swimming club, and karate.

Bareec – a school-based positive education intervention

In 2012, Alnowair, a non-profit organization in Kuwait, developed the Bareec Education Initiative, a school-based intervention applying the framework of positive education with the intention to improve student

academic achievement and social and emotional health (see Table 2.1). Although it is based on positive education principles, the intervention itself only targets individual-level outcomes, such as students' behaviors and attitudes. The targeted outcomes match on Caring and Character of the 5Cs. The Initiative has yet to change the structure of school or educational policy at large to support both academic achievement and health in youth.

The Bareec Initiative included an eight-week curriculum and it was developed in collaboration with researchers from Canadian University at Dubai and University of British Columbia (Lambert, Passmore, Scull, Al Sabah, & Hussain, 2018). Although the Bareec Education Initiative was not developed in partnership with the Kuwaiti government, it later became part of New Kuwait, the National Development Plan, because of its demonstrated success at improving youth social and emotional health.

Through the weekly 15-minute lessons, Bareec teaches students to think positively (e.g., willingness to seek out challenges) and engage in prosocial behaviors (e.g., helping others). Teachers attend two extensive training sessions (four-day and three-day) prior to delivering the curriculum. In addition, teachers receive supplementary materials, and students receive workbooks to complete at home to reinforce their learning. Finally, a mobile app is available for students to complete workbooks online and track their progress. Schools and students have to the opportunity to win monetary prizes depending on overall student participation rates and improvement in student behavioral and academic outcomes. The intervention is currently available to 36 high schools and universities serving over 8,000 students.

Week	Title	Description and Positive Psychology Intervention Used
1	Introduction	Students consider what happiness means. They decide what they need to be happy in the future (often extrinsic markers of success) and contrast with what has made them happy in the past (often intrinsic activity like family time, hobbies) to show that we do not always make the best happiness choices (affective forecasting(Wilson & Gilbert, 2003)
2	What makes me happy?	Students focus on the positives and reconsider what they have in their lives that lead to happiness, but that is overlooked due to habituation. They notice the positive via mindful photography using their mobile phones (Kurtz & Lyubomirsky, 2012).

3	Three good deeds	Students engage in good deeds towards others (Nelson, Layous, Cole, & Lyubomirsky, 2016; Steger, Kashdan, & Oishi, 2008) and use their character strength of kindness. At least 3 good deeds are expected over the course of the week.
4	Ask your family	To generate positive emotional bonds, students connect with family over a purposeful activity(Fischer, Sauer, Vogrincic, & Weisweiler, 2010) designed to elicit collective character strengths through storytelling, and positive emotions like pride in family, reinforcing one's identity.
5	Plan a great day	Instead of waiting for happiness, students set about to create it by considering with whom they would spend time, doing what, in what way, where, and other details that would serve to elicit positive emotions (Dunn, Beard, & Fisher, 2011). They set a date for their great day.
6	Cool glasses; are they right?	Positivity can be undermined by how we think about ourselves, situations, and abilities. Students check their beliefs and how they limit their experiences by holding fixed mindsets (Dweck, 2006).
7	Get moving!	Physical activity can boost positivity, especially when situations or thinking patterns are not conducive. Students plan where and how they can increase activity in the week (Hogan, Catalino, Mata, & Fredrickson, 2015).
8	Good news, please	Students spend much time online and are vulnerable to the effects of social media and negative news. To protect themselves against negativity and social media comparisons, they find good news and otherwise limit their exposure (Szabo & Hopkinson, 2007).

SOURCE: Adapted from Lambert, Passmore, Scull, Al Sabah, & Hussain, 2018

Table 2.1. Bareec Curriculum

Impact

In 2017, an evaluation using a quasi-experimental design provided preliminary evidence to support the effectiveness of Bareec in improving short-term well-being outcomes among high school and university students. The effect sizes of the intervention impact on student subject well-being ranged from small to medium. High school students reported higher levels of positive affect and sense of purpose than comparison students (*Cohen's d = .27 and Cohen's d* = .15 respectively). The long-term effect of Bareec on youth education and health across multiple indicators (e.g., academic, mental health, physical health) is yet to be determined.

Alnowair and Bareec Education Initiative have contributed significantly to the national dialogue about youth well-being. Bareec Education Initiative has become part of the New Kuwait: The National Development Plan. Working closely with the Ministry of Education, Alnowair is expanding the Bareec Education Initiative to deliver services to more students. The Al-Bareec Center is currently tasked to train 10 to 20 secondary school teachers and expand the reach of the Bareec curriculum to additional 12 secondary schools each year. In addition, Alnowair is currently working closely with partner schools and the Ministry of Education to collect more comprehensive data on student academic and health outcomes (e.g., depression, aggression, hypertension) to test the overall effectiveness of Bareec over time. The Bareec University Center, on the other hand, focuses on delivering the Bareec curriculum to students at Kuwait University and supporting training and professional development to university professors and staff on positive psychology, positive education interventions, and youth well-being. The goals are to improve student academic performance (with an emphasis on teamwork) and student mental health outcomes (New Kuwait, n.d.-a).

Barriers and facilitators to success

Based on discussions with interviewees and published reports, we identified some ways that an intervention similar to Bareec Education Initiative can work in schools. We also identified some gaps in connecting education and health.

Barriers

Limited evidence in improving educational outcomes. Although the Bareec Education Initiative applied the positive education framework to design its curriculum, there is a lack of evidence indicating that the curriculum improves educational achievement in youth. Recognizing the limitation, one interviewee shared that the Bareec Education Initiative is working with the Ministry of Education and evaluators from Kuwait University to collect data on educational achievement indicators such as grades and attendance from students receiving the intervention.

Limited experience in developing and evaluating youth well-being programs. One interviewee, who is a psychologist, shared that well-being is a relatively new concept to many practitioners and policy makers in the MENA region. The interviewee thought that there was a narrow understanding of well-being, with an emphasis on happiness in Kuwait. The next step in the development of youth well-being initiatives was to "define well-being beyond happiness to include sense of purpose and life satisfaction." Moreover, few evaluations of youth well-being initiatives have been conducted to document the effectiveness of such programs. One challenge is that many organizations, including government agencies, do not have the capacity to conduct thorough evaluation.

Facilitators

Stakeholder buy-in. According to respondents, it is important to select schools that express interest in youth well-being and positive education to ensure that there is strong buy-in from school administrators.

In addition, buy-in among teachers and their promotion of the program to their colleagues have been critical to building support for the program. An interviewee shared that teachers who had been successful at implementing the program were the biggest champions. For example, teachers would go to other schools to share their knowledge and teach others effective strategies they have used in their classrooms.

Extensive teacher training. Initial and ongoing teacher trainings are key facilitators to successful implementation. Training is delivered via a train-the-trainer model, which has allowed Alnowair to expand and scale-up the intervention rapidly from serving three schools to 36 schools. Alnowair also sends trainers to attend workshops on positive education provided by the Greater Good Science Center at the University of California at Berkeley. Teachers who have been effective facilitators provide training to other teachers.

Continuous quality improvement. Trainers routinely conduct classroom observation to ensure that teachers are adhering to the curriculum and to provide support to teachers. Moreover, an interviewee shared that teachers provided valuable information to improve the Bareec curriculum. Based on the teachers' feedback, the curriculum was reduced from 12 to 10 sessions, and bilingual (Arabic and English) materials were made available.

New Zealand

Background

New Zealand is a country of 4.79 million in the South Pacific region, some 1,200 miles east of Australia across the Tasman Sea. It comprises two main islands and hundreds of smaller islands. In 2013, 24 percent of the population were age 18 or younger, with the majority of them of European descent. The country ranks high on international indicators such as political freedom via the Human Development Index (ninth in 2015) and the Global Peace Index (fourth), least corrupt based on the Corruption Perceptions Index, and high in economic freedom, ranking fourth on the Index of Economic Freedom. In education, the World Bank reports 98.8 percent enrollment in primary schools in 2016. Life expectancy at birth is high, at 82 years old, and the mortality rate for children under five years old is five per 1,000 live births (World Bank, n.d.-d).

Youth well-being policy in New Zealand: Healthy Community Schools Initiative

New Zealand's Healthy Community Schools Initiative, piloted in 2001 by the Ministry of Education, has four aims: increasing effective learning time, reducing barriers to learning, improving health and social supports within schools, and gaining greater connectivity and congruency of schools with their communities. Funding was provided to address the third aim, supporting health and social services provision. Funding was based on an established categorization system of schools based on the social and economic demographic characteristics of the neighborhoods that they serve, giving priority to the schools serving the more vulnerable neighborhoods (e.g., neighborhoods with high percentage of indigenous children). The model involved placing a nurse and a social worker in the schools.

Looking forward, the government is in the process of creating a child well-being strategy (Department of the Prime Minister and Cabinet, n.d.). New Zealand has drafted a framework in the public domain. Well-being advocates are enthusiastic, as the prime minister has shared publicly that the government budget is going to be a well-being budget. One interviewee commented that it's an "amazing time in New Zealand for child and youth health in terms of government commitment."

Integrating social workers and nurses in Schools – an integrated student supports model

To address the third aim of the Healthy Community Schools Initiative (i.e., improve health and social supports within schools), the Ministry of Education developed a program to place nurses and social workers at school. The program is similar to the integrated student supports model in which students receive a variety of social and health services at school. Social workers and nurses have the potential to improve students' educational and health outcomes through supporting development of Competence and Confidence in students.

Integration of nurses and social workers into schools reflects the ministry's emphasis on students' comprehensive well-being in addition to academic achievement. Social workers and nurses were trained and hired by non-governmental agencies and placed in schools. In most schools, they have implemented a screening tool used on each student to identify higher needs students who may need extra support with certain health behaviors, family issues, or mental health concerns. These higher needs students receive follow-up time with the social worker or nurse, whoever is deemed more appropriate for each student, and an individual action plan is created for each student. Students can also take initiative and reach out to school nurse and/or social worker to receive services.

In 2007 the program divided up the services, so that the social worker management went to the Ministry of Social Development and nursing went to the Ministry of Health. According to one interviewee, the social work component "has floundered and has not grown at the same pace as the nurses" since the split. Another interviewee shared: "Within the school itself when everyone is connected, the whole being of children and families works well. When nurses are disconnected from social workers, it doesn't work well. If it is fragmented, it impacts negatively on the well-being of the children who need the help."Central to the philosophy of this program is the home visit and a parental consent requirement so that a child is not considered or aided in isolation from the family. One of the interviewees based at an organization that manages the social workers described the job of their social workers to include one-on-one work with children and their families, home visits, and group programs that address emerging issues such as bullying. Including a home visit component to this integrated schools approach helps connect schools and families to provide more integrated supports to students.

Impact

In 2008, the Ministry of Health commissioned an evaluation of the Healthy Community Schools program and found that compared to students in other schools in similarly distressed areas, truancy was lower, retention was higher, and literacy, numeracy and higher qualifications of National Certificate of Education Achievement were attained in program schools (New Zealand Ministry of Health, 2009). On the health side, the evaluation found that health services were meeting an unmet need of health assessment and health education. Program schools provided early identification of health issues and high-risk behaviors, a safe environment for disclosure of family violence or sexual abuse, and information about healthy behavior choices (e.g., safe sex, healthy diet).

A cross-sectional evaluation of 85,000 high school students in New Zealand in 2012 examined mental health outcomes of students and school-based health services provisions at the school-level. Study authors found that higher levels of services were associated with lower levels of self-reported depressive symptoms, emotional and behavioral difficulties,

and suicidal tendancy. Programs with more nursing hours and those that conducted psychosocial assessments on a routine basis were associated with lower suicidality and depressive symptoms.

One interviewee mentioned that she knew the social workers were making a difference because they were getting feedback from teachers about positive behavior changes in the classroom. Social workers provide a range of assistance from helping parents to furnish a home to ensuring children come to school with a lunch. Another interviewee commented about the program: "I love the social workers in schools, there's such a need. They are fabulous. Children are living in more complex situations today and the needs for families are much, much greater and more complex." Interviewees also shared that variation in implementation of the program made evaluation efforts challenging.

Barriers and facilitators to success

Based on discussions with interviewees and published reports, we identified some ways that an intervention similar to Healthy Community School Programs can work in schools. We also identified some gaps in connecting education and health.

Barriers

Facilities for nurse visits. One concern is finding the physical space for students to see a nurse in the schools. One interviewee commented that "students are having to see a nurse in a cupboard." In addition to having space, the location of the space matters, it needs to be semi-private, sound-proof, and not near the principal's office. There are no minimum requirements for school-based health services, so the program is "currently expanding without any requirements".

Tension of maintaining confidentiality in a school setting. In one school, the nurses felt the principal wanted more disclosure of health information than the nurses were comfortable with because the nurses felt such disclosure broke the confidentiality agreement they had built with the students. Ultimately, the local hospital supported the nurses and the nurses withdrew from the school. This example highlights the tension between maintaining confidentiality while being part of the school and taking a comprehensive approach to well-being.

Community buy-in. Interviewees shared that in order to have a successful school-based health program, school leaders (e.g., principals) need to be committed to the program. To obtain buy-in from families and community members, each school-based health program was advised by a community board. One interviewee shared that families and community members at a religious school were particularly concerned about nurses providing sexual healthcare to students. The community board was able to facilitate a conversation between the family members and nurses to find a compromise.

Mistrust in government. One interviewee described trust issues with social workers and noted that social workers employed by a non-governmental agency, not the government, were preferred. There was low trust for government social workers because they had the power to remove a child from the home if they deemed it necessary.

Facilitators

Use of a student and family-first approach. Two interviewees mentioned the importance of having social workers who "really listen to what the kid and family are talking about." They noted that "sometimes families have their own solutions, and consideration of their voice is essential." Another interviewee said, "You need to make sure the right people are in the roles, people who understand families really well and despite all of the complexities can see the strength and the goodness in the families." As discussed in Chapter 1, it is important to consider the capacities and strengths of the students and families when applying the integrated student supports model at school.

Coordination of student care. As discussed in Chapter 1, coordination between school and community service providers is critical to the success of the ISS model. Similarly, interviewees shared that when all staff in the school were working together to support students, and when the social worker, nurse, teachers and parents were all on the same page about how best to support the students, the Healthy Community Schools initiative was most effective.

Ontario, Canada

Background

Ontario is the second largest province in Canada, with a population of over 13.5 million; 85 percent of residents live in urban centers. Economically, Ontario generates 37 percent of Canada's GDP and is "home to almost 50 percent of all employees in high tech, financial services, and other knowledge-intensive industries." Farming is also a big industry in Ontario, producing one fourth of farm revenue in Canada.

In 2017, children and youth under the age of 24 accounted for 28.7 percent of the population in Ontario.

Youth well-being policy in Ontario: the Well-being Strategy for Education

In 2015 the Ontario Ministry of Education introduced Ontario's Well-being Strategy for Education. The ministry stated: "our goal is to work together on determining what well-being looks like, establishing what conditions and supports are required to create positive learning environment, and focusing on how it underpins everything we do." The policy defines four domains of well-being: physical, cognitive, social, and emotional. It comprises four components: positive mental health, safe and accepting schools, healthy schools, and equity and inclusive education (see Figure 2.5).

SOURCE: Ontario Ministry of Education

Figure 2.4 Ontario Well-Being Strategy for Education

Improving psychological well-being and SEL skills

Ontario's well-being strategy is particularly aligned with social and emotional learning (SEL). It operates at the system-level and aims to change the structure of schools to support the overall well-being of youth through improving Competence and Connection in students.

Ontario has implemented various programs to support each component of the well-being strategy:

- Positive mental health: all school boards have a mental health leader who works on board-level policies and helps to build capacity to support the mental health of students.
- Fostering safe and accepting schools: for example, the Accepting Schools Act, passed in 2012, requires a school climate that is positive and accepting, "regardless of race, ancestry, place of origin, color, ethnic origin, citizenship, creed, sex, sexual orientation, gender identity, gender expression, age, marital status, family status or disability."
- Developing healthy schools: a revised health and physical education curriculum which emphasizes well-being, and places expectations on teachers to develop mental health, resilience, and well-being.
- Supporting equity and inclusive education: a youth strategy called "Stepping Up" focusing on supporting youth as "contributing members of their communities."

Schools have developed a variety of programs to promote the four components of the well-being strategy. For example, an interviewee observed classrooms where self-regulation zones have been adopted as a strategy to help students name and manage their emotions., This is not a required strategy for the district, however. She further observed that classrooms with various spaces for students to work, with access to various learning structures was an indication of a focus on well-being. Classrooms, where students had water bottles, were a further indication that the teachers understood the importance of physical health (i.e., hydration) to learning, she noted.

Barriers and facilitators to success

Based on discussions with interviewees and published reports, we identified barriers and facilitators to implementing a successful well-being policy that focuses on connecting education and psychological and emotional health.

Barriers

Difficulty in quantifying well-being. One interviewee shared: "When we get sharp thinkers who have deep, rich understanding and passion about the importance of well-being, you will see excellent resources coming out. The challenge is implementation. How do you balance everything? [Well-being is] difficult to quantify. It is easy to hold onto things that are quantifiable... Reading is quantifiable, well-being is not." This interviewee explained that well-being is complicated, and simple measures don't capture it. Considering student achievement, she remarked that "there are students who are able to achieve well even in environments that might be hostile to their well-being, so that's not an indicator of well-being." Moreover, there is a lack of data to grasp the progress made by the Well-Being Strategy for Education in Ontario.

Need to promote well-being for both staff and students. Student well-being is the focus of all of this work, but student and staff well-being go together. It is untenable to expect staff to foster well-being in their classrooms if their own well-being is not also supported. One interviewee advised staff to "stay the course through ups and downs. [The focus on well-being] is not a flavor of the month. [But it] becomes the foundation for everything: how you treat your kids, how you treat staff. It's about the spirit of asset building, which means everyone can be an asset builder. It's about repetition. We all have strengths and wisdom and we're all leaders in different ways."

Facilitators

Community engagement. One interviewee emphasized the importance of the well-being planning process. "Engaging people on the ground" was critical. The interviewee noted that "students need to have a robust part in the development of the plan." The message was similar in promoting the well-being strategy; as another interviewee pointed out "it's important to engage communities in valuing that work, and it needs to be valued by families too... you have to spend the time to develop the idea and get the buy in. It doesn't happen quickly, it's not a silver bullet... It's the work that villages knew."

Integration of a mental health leader in each school board. This position helps facilitate specific, positive change in policies at the district and school levels. It also demonstrates a commitment by the Ministry of Education to integrating health and well-being into schools.

Singapore

Background

Singapore, an island city-state at the tip of the Malay Peninsula, has a multi-ethnic and multi-cultural population of approximately 5.6 million (2018) with about 25 percent of the population under the age of 18. Chinese comprise the majority of the population (76.2 percent) followed by Malays (15 percent) and Indians (7.4 percent). The World Bank considers Singapore a high-income country; in 2017 the Gross National Income (GNI) per capita was $54,530 (World Bank , n.d.-a). With scant natural resources, Singapore's economy is largely dependent on banking and finance and international finance. Having a highly educated population is considered critical to the country's economic success. In 2017, secondary school enrollment was 100 percent among those who were in the age group corresponding to secondary education (World Bank, n.d.-a). The unemployment rate in youth ages 15 to 24 was 8.6 percent in 2018 (World bank, n.d.-c). Although Singaporean youth enjoy a high degree of educational attainment and employment, a 2013 National Youth Council survey of youth well-being found that self-reported life satisfaction and happiness among youth has decreased in recent years (Ho, 2015).

Youth well-being policy in Singapore: twenty-first century competencies and student outcomes

In 2009 the Ministry of Education implemented the 21st Century Competencies and Student Outcomes (21CC) framework nationwide (Tan, Choo, Kang, & Liem, 2017). It builds upon the previous Thinking Schools, Learning Nation (TSLN) reform to include social, emotional, and interpersonal skills in addition to cognitive competencies. The 21CC framework aims to change both the academic and non-academic curriculum at school. The 21CC framework differs from previous educational reform in that it focuses on values. It recognizes the importance of values in shaping students' beliefs, attitudes, and behaviors. The values at the core of the 21CC framework are respect, responsibility, integrity, care, resilience, and harmony. Moreover, it places an emphasis on developing students' social and emotional competencies (see Figure 2.5 for the 21CC framework). Finally, it promotes the development of three twenty-first century competencies: (1) civic literacy, global awareness and cross-cultural skills, (2) critical and inventive thinking, and (3) communication, collaboration, and information skills (see Figure 2.5 for the 21CC framework). The goal is to prepare students to become confident, self-directed learners, concerned citizens, and active contributors (the desired student outcomes; Singapore Ministry of Education, 2018).

Source: Singapore Ministry of Education

Figure 2.5 Singapore 21st Century Competencies and Student Outcomes

Social-emotional learning in Singapore

Singapore adapted the Collaborative for Academic Social and Emotional Learning's (CASEL) model of social-emotional learning (SEL) nationwide. The goal is to provide schools with a set of guiding principles to develop programs that would promote students' development in five core social-emotional competencies: (1) self-awareness, (2) social awareness, (3) self-management, (4) relationship management, and character the (5) responsible decision making. These SEL competences match on Competence, Caring, and Character of the 5Cs. The system-wide implementation of SEL is intended to not only change the individual behaviors of students but to create cultural shifts at the school-level.

SEL is taught within the Character and Citizenship Education Curriculum in schools. Curriculum and services include education and career exploration, sexuality education, cyber wellness, discipline, and counseling. Schools have the flexibility to implement programs that meet the needs of their students (Ministry of Education - Singapore, n.d.). For example, primary and secondary schools have infused SEL into leadership development and service-learning courses (Chang, 2009).

One of the largest SEL programs in Singapore is Zippy's Friends, implemented by Singapore's Health Promotion Board in partnership with the Ministry of Education. Zippy's Friends is designed for children between the ages of 5 and 7 and is available to all kindergarteners. It was originally developed in the United Kingdom and has been implemented in over 30 countries. Zippy's Friends is a structured intervention that includes six modules: (1) feelings, (2) communication, (3) friendship, (4) conflict, (5) change and loss, and (6) moving forward. There are a total of 24 sessions, each 45-minutes long. Each session includes a variety of activities such as storytelling, discussion, games, role-play, and drawing. Teachers receive extensive training prior to delivering the intervention.

In addition, parents receive structured materials to help their children to practice skills they have learned in the classroom (Partnership for Children).

Impact

Although SEL programs have been implemented in Singapore since 2005, little publicly available research exists to document the progress of the programs. Interviewees shared that although the Health Promotion Board has been conducting evaluation of all programs, including Zippy's Friends, the purpose of the evaluation is to provide information about program development; evaluation of outcomes is currently not available. Nonetheless, a recent research project called the Singapore Kindergarten Impact Program (SKIP) has examined the role of teachers in the implementation of SEL programs in kindergarten. SKIP collected data from 1,538 students from 80 schools. The study used observational data from six classrooms. Two teacher assistants conducted in-person observation and video recording in each of the classrooms (Ng & Bull, 2018). The study found that teachers used four strategies to facilitate SEL in the classroom: (1) setting a positive tone, (2) guiding students to develop solutions, (3) allocating tasks and responsibilities to students, and (4) encouraging critical thinking among students (Ng & Bull, 2018). Finally, a recent review concluded that the learning of SEL is not well integrated. Most schools in Singapore do not have a system to promote SEL learning outside of the Character and Citizenship Curriculum. As a result, the impact of SEL on well-being was limited. Furthermore, it is unclear the extent to which schools are implementing evidence-based SEL programs (Chong & Lee, 2015).

Barriers and facilitators to success

Based on discussions with interviewees and published reports, we identified barriers and facilitators to implementing successful SEL programs that focused on connecting education with social and emotional health.

Barriers

Cultural differences in emotional expression. Patterns of emotional expression are influenced by cultural norms and expectations. SEL places an emphasis on identifying and expressing emotions. In general, collectivistic culture, as found in Singapore, values inhibition of emotional expression to avoid interpersonal conflict and promote harmony (Chen, Cheung, Bond, & Leung, 2005). Thus, the SEL curriculum needs to be adapted to teach emotional regulation skills that are consistent with the host setting's cultural norms. An interviewee noted that youth culture was another consideration. Zippy's Friends was developed in 1998 for a different generation of children. The interviewee shared that the Health Promotion Board was working to update the activities to reflect changes in language and cultural expression used by today's children (e.g., use of social media).

Lack of systematic and comprehensive evaluation. As discussed earlier, because there is a lack of research to evaluate the effectiveness of SEL programs in Singapore, the extent that SEL has promoted educational and health outcomes in youth is unclear. Findings from evaluation can also be used to further develop and tailor SEL programs to meet the needs of Singaporean youth.

More rigorous training is needed for teachers to implement SEL programs. Teachers' understanding of SEL and confidence in delivering SEL programs are critical to having effective SEL programs. Interviewee shared that more training is needed for teachers to gain a more thorough understanding of the impact of SEL on student academic achievement. Furthermore, the interviewee discussed the need to train teachers on how to reinforce and integrate learning from the curriculum into their teaching. Chong and Lee (2015) came to the similar conclusion: SEL should be integrated into classroom learning instead of being implemented as a separate curriculum.

Facilitators

Strong interagency collaboration. The interviewees shared that the collaboration between the Health Promotion Board and the Ministry of Education was an important facilitator. The two agencies share data and representatives meet consistently to discuss school-based health promotion (e.g., SEL) programs. An interviewee discussed complimentary services provided by the Health Promotion Board and the Ministry of Education. For example, the Health Promotion Board provides nutrition training to school lunch providers. To assist with the Health Promotion Board's tracking of student health, schools record every student's height and weight twice a year and share the data with the Board.

Dedicated political and financial support. Health Promotion Board receives dedicated annual funding from the Ministry of Health to deliver services in schools. In addition to financial support, an interviewee shared that legislators in Singapore are invested in health promotion and prevention. She said, "I think our [policymakers] are very very pro-health promotion; they see the benefits of health promotion as a [part] of healthcare in Singapore."

Santa Monica, California, USA

Background

Santa Monica, California, is located on the west coast of the United States, just west of Los Angeles. It has a sunny, Mediterranean climate, and a population of 92,306 (US Census Bureau, 2018). Santa Monica is an ethnically diverse city: 65 percent of the population is white, 16 percent Hispanic or Latino, 10 percent Asian and 4 percent are African American. The Mayor's office emphasizes and celebrates that 24 percent of residents are foreign born (City of Santa Monica, n.d.-a). Nearly 30 percent of individuals speak a language other than English at home. Approximately 15 percent of the population are under the age of 18.

With a median household income of $86,084, Santa Monica is considered among the wealthier of U.S. cities. It has a poverty rate of 10.7 percent, and 94.3 percent of the population has a high school degree.

Educational and health disparities among Santa Monica's racial/ethnic groups are significant. The 2017 Youth Well-Being Report Card shared a 94.6 percent graduation rate, but for high school graduates who complete college admission requirements in 2016, there were important differences by ethnicity: 89 percent of Asian students and 80 percent of White students completed college admission requirements, compared to only 60 percent of Latinos and 54 percent of African Americans (Santa Monica - Cradle to Career, 2017). The high rates of African American and Latino usage of the reduced and free lunch program is another reflection of the comparative poverty of these ethnic groups compared to Asians and Whites (Santa Monica - Cradle to Career, 2017).

Youth well-being policy in Santa Monica: an integrated student supports model

Santa Monica Cradle to Career (SMC2C) is a partnership between the City of Santa Monica and a variety of private organizations with a shared goal of improving youth well-being (Santa Monica - Cradle to Career, n.d.). It is most similar to the integrated student supports model discussed in Chapter 1. Instead of applying the ISS model in a school-setting, SMC2C works to connect different youth-serving organizations to coordinate their youth services at the city-level. The more coordinated efforts allow for greater access to services and stronger connection between youth and supportive systems.

As noted, although Santa Monica is an affluent city, ethnic disparities negatively influence the well-being of Santa Monica youth. Tragedies such as the fatal 2009 shooting of a high school student sparked new discussions between the city and sectors of the community which had not previously been as involved in city politics and governance. These conversations revealed a need for data to understand youth well-being in Santa Monica, and what was needed for success. Leaders from all nonprofit organizations that were receiving funding from the city came together to discuss issues and solutions; SMC2C emerged from these conversations among government, the community and local stakeholders.

Partnership is essential to the mission of Cradle to Career. Partners include Boys and Girls Club of Santa Monica, Early Childhood Education of Santa Monica, Clare Foundation, Community for Excellent Public Schools, Hospitality Training Academy, Legal Aid Foundation of Los Angeles and Santa Monica College. Cradle to Career aims to promote youth well-being through developing partnerships among various youth-serving systems "based on research substantiating that large-scale social change requires organizations across different sectors work together rather than individually"(Santa Monica - Cradle to Career, n.d.). The effort brings together all of the public institutions and non-profits that serve Santa Monica youth. The organizations work together to coordinate their services, including crisis intervention, evaluating relevant programs and policies, and collecting and analyzing data.

Youth Well-being Report Card

The Youth Well-being Report Card, which emerged from the Santa Monica Cradle to Career policy, is a data collection tool that helps administrators, advocates, and others understand and evaluate how the youth are doing. Among others, the tool provides epidemiological data on youth in Santa Monica. The data are used to identify and prioritize barriers to youth well-being and implement strategies to address them.

City staff share the annual report card findings with the community and collect their reactions and feedback to identify priority areas. After the first year, four goals emerged from the Report Card: increase kindergarten readiness, strengthen youth connectedness and behavioral health, engage vulnerable youth and their families in supportive services, and improve college and career readiness.

According to one interviewee, the Youth Well-being Report Card did not reveal anything too surprising, with some exceptions. The city did identify higher substance use rates than in LA County, and high rates of hopelessness or depression. This led to a new question in the subsequent year's survey about suicidal ideation.

The Youth Well-being Report Card has had an influence on student substance abuse policy. As a result of its findings, a committee examined the school district policies for students found in violation of laws and campus rules. In August 2018, the director of student services for the district presented a policy change to the school board: a shift from punishment to restorative justice, focusing on the rehabilitation of offenders and reconciliation with the community. Suspension remains part of the policy, supplemented by an individualized action plan for each student to focus on rehabilitation and to provide a safety net to help students recover and grow (Carreras, 2018).

Another example of how the report card findings have led to change is with kindergarten readiness. Lower-than-desired kindergarten readiness scores led the city to consider what programming existed for children through age three that might help prepare them for kindergarten. According to one interviewee, three actions resulted from this examination. One was budget-oriented: the city increased the dollar amount available for childcare subsidies through their Connections for Children program. At the programming level, the city implemented a case management program for 30 vulnerable families, which included parenting classes, employment services, and mental health services for children. And in a cross-sector collaboration, the library was awarded a Reading-to-Go grant, which entails outreach to children who are not in a formal pre-kindergarten program. Reading-to-Go participants receive one-on-one time with a librarian and a "learning kit" that includes items that provide tactile stimulation.

Impact

There has not been an evaluation of the Youth Well-being Report Card in part because the tool is an evaluator on its own. There have been conversations about setting benchmarks, however. Interviewees posed the question of how to know what goal to aim for, which cities to compare themselves to, and how to set their own standards if there are no appropriate comparison cities. Looking ahead, a new goal for Santa Monica is to encourage people to use the report card so that the data can be updated and people can constantly engage in the issues of youth well-being in real time. To facilitate use, the data are now stored entirely online. Further, the report card is now linked to a larger civic effort to promote well-being and sustainability issues across the city and across populations (wellbeing.smgov.net).

Barriers and facilitators to success

Based on discussions with interviewees and published reports, we identified ways that a policy like the Santa Monica Cradle to Career can function in other cities. More specifically, we summarize insights about the challenges associated with collecting both educational and health data at the population-level.

Barriers

Having to be flexible and adaptive to data challenges. One interviewee warned about the challenge of collecting consistent data.

"One challenge is the methodology shifts... Tools become more sophisticated or outdated, and you have to add footnotes about why some of the data isn't comparing apples to apples." Another said, "You can get caught up in trying to create this perfect world of collecting data, and some data has to act as a proxy, which is okay."

Difficulty to maintain focus on well-being among more acute crises. One interviewee described the challenge of prioritizing the "chronic" crisis of youth well-being and thriving when there are other much more visible "acute" crises to address, such as homelessness and public safety. The visibility of these acute crises makes it hard to hold the attention of both the public and leadership on issues of youth well-being and thriving.

Facilitators

The value of using data to inform decisions. Interviewees emphasized the importance of collecting data in spurring conversations about youth well-being and compelling the community and city to address questions such as "What are we going to do with the data when we have it? How do we measure change? How do we make decisions based on the data we are seeing? One interviewee stated: "Having data is essential. It has to be a line item in the budget with staff. It can't just be an idea, it has to be a formal commitment."

The capacity to adjust funding mechanisms to reflect priorities. For one interviewee, the most important part of this initiative is that the city ties their funding to the data from the report card. They emphasized the importance of a data-driven process to allocating funds, "otherwise you're just throwing money away." Santa Monica has $4 million allocated to youth and family-serving agencies. The Cradle to Career initiative and the report card have helped the city identify programs and services that would address the four goals, and added accountability to their grantees. One interviewee proposed: "had the city not tied the change to funding, it wouldn't have worked. It has to be intentional."

Using language that makes sense to the community. One interviewee stated that well-being needed to be explained in a way that people could understand it and use it. It has to be accessible and jargon-free. Moreover, marketing the language is also critical. One interviewee said, "figure out the narrative that will resonate with the public so that you can build support for it and keep going. There should be an annual report, more press releases, a marketing campaign that accompanies it. A lot of the work is permeating the public to recognize that these are issues and potential solutions."

Inclusion of the community in the planning process. One interviewee stated, "one thing that really helped us was engaging the community at the outset with focus groups and asking what kind of data they want to see." Active involvement from community members is a key feature of the ISS model.

Influence of well-being beyond the school setting. Unlike many of the other interventions in this report, this is not a school-based intervention. The initiative comes from the city government, which influences well-being through policy initiatives and funding requirements. The city-wide initiative ensures that well-being remains a focus in all sectors of the Santa Monica community.

Oman and Denmark have recently implemented two innovative initiatives to promote education and health. Oman has developed the first comprehensive index to track child well-being in the MENA region. In Denmark, they conducted a total overhaul of their education system because of concerns that academic achievement was not as strong as that in other comparable countries in the region. Well-being was a central construct of this system-wide change.

Oman's Child Well-being and Empowerment Index (CWEI)

In 2017, Oman developed the first Child Well-being and Empowerment Index (CWEI) in the region. The CWEI assesses comprehensive child well-being through a composite index that includes multiple domains. In partnership with UNICEF, Oman's National Centre for Statistic Information developed the five CWEI domains largely based the Sustainable Development Goals. The five CWEI domains are (1) material well-being, (2) quality education, (3) access to clean water and reliable energy services, (4) safety and prevention of violence and substance use, (5) physical health.

Data to construct the index were extracted from publicly available international data bases (e.g., World Bank, UNICEF). This index blends education and health for youth well-being to allow Oman to compare its progress on child well-being to other countries and to make comparison across regions within the country.

CWEI Domains	Indicators	Matched SDG
1.Attain Material Well-being	Proportion of the population below the international poverty line	Poverty reduction
	Gini index	Inclusive growth
	Proportion of the population covered by social protection systems	Social protection
	Household consumption per capita	Inclusive growth
	Unemployment rate	Full productive employment
	Proportion of children aged 5-17 engaged in child labor	Ending child labor

2.Learn and Achieve	Adjusted net enrollment rates in primary school, lower secondary school, and upper secondary school	Quality education completion for all with effective learning outcomes
	Participation rate of children 4-5 years old in early childhood education/ preschool programs	Quality early childhood development, care, and pre-primary education
	Gender parity indices for all education indicators	Gender parity in education
	Proportion of population 15-24 years of age having achieved at least a fixed level of proficiency in functional literacy	Youth and adult literacy & numeracy
	Proportion of individuals using the internet	Enhanced information and communication technology
3.Enjoy a Decent Home	Proportion of population using an improved water source	Safe drinking water
	Proportion of population using an improved sanitation facility	Adequate sanitation and hygiene
	Proportion of population with access to electricity	Affordable, reliable and modern energy services
4.Stay Safe & Protected	Proportion of children under 5 with registered birth record	Legal identity, including birth registration

	Proportion of children subjected to physical, psychological, or sexual abuse/violence in the previous 12 months	Ending violence against children
	Adolescent birth rate	Eliminate early and forced marriage
	Availability of substance use treatment	Prevention & treatment of substance abuse
	Total alcohol per capita consumption of alcohol (among those who are 15+ years old)	Prevention & treatment of substance abuse
	Traffic injury deaths per 100,000 population and other injury deaths per 100,000 population	Reduce road traffic deaths and injuries
	Suicide mortality per 100,000 population	Mental health & well-being
5.Survive and Thrive	Under 5 mortality rate	End preventable child deaths
	Neonatal mortality rate	End preventable child deaths
	Stunting, wasting, and overweight prevalence among children under 5 years old	End malnutrition
	Antenatal care coverage	Universal health coverage
	Immunization coverage	Universal health coverage
	Total fertility rate	Reproductive health care services

SOURCE: National Centre for Statistics & Information - Sultunate of Oman, 2018

Figure 2.6 Emerging innovations from Oman and Denmark

Denmark's educational reform to improve youth well-being

In 2014, inspired by poor rankings in academic achievement compared with similar countries, the Danish Ministry of Education began to implement a full, system-wide reform of Folkeskole, the Danish municipal primary and lower secondary school system, that educates eighty-two percent of all children and young people in the county. The reform combined academic support with broader commitment to youth well-being. The reform places an emphasis of eliminating disparities in educational and well-being outcomes. This emphasis on well-being is central to the philosophy and framework of the reform. It is unique as a system-wide education reform and therefore important to include in this report. Components such as a longer school day, assisted learning and homework assistance programming demonstrate an emphasis on academic competency. Components such as more physical exercise and activity, improved transitions for higher education, a varied school day to improve student satisfaction, and improved learning environments demonstrate the emphasis on well-being. The reform called for:

1. A longer and more varied school day. Schools days are extended, and more support is given.

2. Assisted learning. The school day will include more assisted learning thanks to the extended hours.

3. More PE and physical exercise and activity. A requirement of 45 minutes of physical activity daily.

4. Homework assistance. Requirement to offer in-depth academic study and homework assistance during the school day.

5. Better teaching. A focused effort to improve the quality of lessons taught.

6. More lessons in Danish and math. For form levels 4-9, one additional weekly lesson is required in Danish and in math.

7. Strengthening of foreign languages. Introduction of English at form 1, and earlier start for French and German.

8. New subjects – crafts and design and nutrition knowledge. Replacement of woodwork and needlecraft with "Craft and Design," with one additional lesson per week, and home economics will be changed to "Nutrition Knowledge."

9. The open school. Encourages community partnerships, field trips and inviting community experts into schools.

10. Improved transition to higher education. Focus on older students' preparations for higher education.

11. Few and clear objectives. Three new objectives are:

1) to challenge all pupils to reach their fullest potential;

2) reduce the significance of pupils' social background for academic results;

3) trust in the school and pupil well-being must be enhanced by showing respect for professional knowledge and practice.

12. Competency development. KR 1 billion (USD$152.6 million) allocation of funds by the government for developing teacher competencies.

13. Better learning environment and quietness in class. Develop a tool to "work systematically to increase the well-being of pupils in connection with academic development."

14. Learning consultants. Deploy a group of 40 learning consultants to help municipalities and schools with quality development.

15. Stronger parental influence and increased pupil participation. Define ways that parents can contribute and prepare them to be involved in school boards. Also, implementation of a project to involve pupils in school planning and development.

16. Simplification of rules. A goal of being less dependent on rules and procedural demands.

Evaluation

The reform is accompanied by a research program designed to evaluate how the elements of the reform are being implemented and the results. The evaluation program measures student achievement using national tests, student well-being using a National Well-being Survey, and increased equity using school registration data.

A presentation from the research program provides an example of results for the physical activity goals of the reform, indicating that in 2016, 13 percent of teachers reported implementing physical activities into their teaching every day, and 72 percent implemented it at least once a week. The evaluation noted that challenges include finding ways to connect physical activities to the teaching and content with older students, and one-third of teachers requesting additional resources on how to implement physical activity into their teaching (Danish Ministry of Education). Other evaluation of aspects of well-being beyond physical activity are pending.

Lessons learned

According to one interviewee, evaluation challenges came from asking students about well-being, and noted that some parents found the questions too personal, that "the state shouldn't have that information on their own children." The interviewee emphasized the importance of how the survey is communicated to parents.

Deliberate and effective communication also assisted in meeting political expectations. People and political figures want to see immediate results, but this takes time, especially with large-scale programs. Communicating expectations effectively was noted as important to a successful rollout.

Another recommendation from the interviewees and the evaluation to date was to produce an explicit theory of change. The interviewee noted that specifics are critical; clear definitions of short, middle, and long-term expectations for each element are needed.

Analysis of case examples

Using the frameworks described in Chapter 1, we analyzed the case examples to illustrate the extent to which policies and programs were grounding their actions in the evidence and best practices presented in research. Social and emotional learning and the integrated student supports model were used by most countries or cities. We also matched policies and programs from each case example with the 5Cs (Competence, Confidence, Caring, Connection, and Character) to illustrate the extent to which a policy or program identified a pathway to positive educational and health outcomes (see Table 2.2). We found that all 5Cs were included as a mechanism to improve student educational and health outcomes. However, policies and programs did not always explicitly identify the mechanism of change. Our findings below are organized by system level: individual, school/district, and community.

Case Examples	Policy/ Intervention	Relevant Frameworks	Relevant 5Cs
Jordan	Nashatati	Social and Emotional Learning	Competence, Confidence, Character
	Makani Centers	Integrated Student Supports	Competence, Confidence, Connection
Kuwait	Bareec	Positive Education	Caring, Character
New Zealand	Integrating social workers and nurses in school	Integrated Student Supports	Competence, Confidence
Ontario	Well-Being Strategy to Education	Social and Emotional Learning	Competence, Connection
Singapore	21st Century Competencies and Student Outcomes	Social and Emotional Learning	Competence, Caring, Character
Santa Monica	Santa Monica Cradle to Career	Integrated Student Supports	Connection

Table 2.2. Matching Case Examples to Frameworks and 5Cs

Application of individual-level frameworks

At the individual-level, school-based interventions that apply the growth mindset and mindfulness frameworks have produced promising results. Evidence points to short-term gains in educational, psychological, and behavioral outcomes in youth from diverse backgrounds. Interestingly, none of the case examples applied growth mindset or mindfulness frameworks to guide their development of well-being policies and programs. Since growth mindset and mindfulness frameworks mostly aim at changing students' beliefs, attitudes, and behaviors, they are less informative as guiding principles for developing an overarching well-being policy that often requires an analysis of multiple systems. Instead, these two frameworks are most helpful when a community is ready to choose an evidence-based intervention. Although school-based interventions guided by these two frameworks have been implemented and evaluated in multiple countries, one should take local context into careful consideration when adapting an intervention. Multiple interviewees from the MENA region noted the importance of cultural adaptation and respect for local norms and values.

Application of school and district-level frameworks

Moving beyond changing individual-level attributes, positive education and social and emotional learning (SEL) are frameworks that promote student well-being and educational achievement and success through creating learning environments that support social and emotional health. As noted earlier, there is research to support the effectiveness of these two approaches. Overall, students report more positive psychological outcomes and gains in educational achievement after participating in positive education and SEL interventions.

It is not surprising that in four case examples - Kuwait, Jordan, Ontario, and Singapore, educators and policymakers have included positive education and SEL in their well-being policies and programs. In Jordan, Ontario, and Singapore, SEL programs to improve competence, confidence, and character in students were implemented. Kuwait implemented a school-based program (Bareec) using the positive education approach to build character, without affecting changes at the school or district-level.

Ontario and Singapore embrace the systems approach, apply positive education and SEL concepts to develop district-wide policy and allow schools to design and choose interventions that align with the policy. A district-wide policy is critical to the development of shared knowledge and language which allows for standardization and consistency. Districts may further consider offering schools assistance in choosing and evaluating evidence-based interventions that align with the district-wide policy. As interviewees from Ontario shared, autonomy and community input are also important to developing effective well-being programs customized for diverse schools.

In contrast, Kuwait and Jordan applied concepts from the positive education and SEL frameworks primarily to guide school-based programs to manage individual student behavior. Preliminary investigation of these programs suggested that they are effective at improving student psychological well-being (Lambert et al., 2018). However, without engaging at the system-level, these interventions fail to address external factors (e.g., peer expectations, school disciplinary policy) that can potentially alter student educational and health outcomes. Identifying external factors that can potentially bolster or lessen the impact of an intervention on student outcomes is an important next step.

Application of community-level frameworks

Factors external to school, of course, also impact student learning and health. The integrated student supports (ISS) model transforms schools into institutions where students, families, and community members can receive integrated well-being services ranging from mental health counseling to dental hygiene. Although the *Makani* centers in Jordan are not based at school, they function as a school for Jordanian youth who are outside the formal educational system. They provide comprehensive social and psychological services to vulnerable youth and their families. New Zealand also provides comprehensive physical and mental health services to students via its Healthy Community School Program. Both the *Makani* centers and New Zealand Healthy Community School Program aim to improve students' connection to services. The Santa Monica Cradle to Career policy aims to strengthen partnerships among government agencies, youth-serving organizations, and the private sector to develop programs and solutions to promote positive education and health in youth.

Implementing a community-level strategy similar to the *Makani* centers is perhaps more resource-intensive in comparison to delivering individual or district-level strategies. As discussed in Chapter 1, the effectiveness of the ISS model depends on the coordination and partnership between multiple stakeholders. It also requires schools to broaden their missions from educating individual students to serving the entire community. Such a paradigm shift is often not easy, and resistance is inevitable. Thus, a thorough assessment of the needs and capacities of the school and other stakeholders is critical. Interviewees shared that the *Makani* centers, especially those located at informal tented settlements, suffered from limited local capacity as many community members were not equipped to become facilitators at the centers. Although difficult, a community-level approach has the potential to create the most widespread impact on youth well-being as it is designed to influence multiple ecological systems (e.g., family, school, neighborhood) that support the well-being of young people.

Summary

In this chapter, we assembled case examples to illustrate how six countries and two cities from diverse regions of the world have developed policies and programs to improve youth well-being through education and health. Each country or city has its own youth well-being policy, and all policies and programs recognize the importance of both academic and non-academic competencies. Among non-academic competencies, social-emotional competencies and positive mental health were represented in most case examples. In the MENA region, workforce development is an additional component of youth well-being policy. The focus on vocational training and employability reflects the region's emphasis on economic diversity and concern about high rates of youth unemployment.

Although youth well-being is a priority for all six case examples, the translation of well-being policy into operational programs varies. In New Zealand, Ontario, Jordan, and Singapore policies are better integrated and reflected in programs. The implementation of policy is most direct when the entire process is managed by a single entity. Government agencies in New Zealand, Ontario, Jordan, and Singapore, such as the Ministry of Education and the Ministry of Health, develop the policy and design the programs. In Kuwait, by contrast, programs are less directly integrated with the national youth well-being policy. Programs in Kuwait were first developed and tested by a local non-profit organization. Once the programs have demonstrated effectiveness in changing youth well-being outcomes, the government begins to provide support and expand the programs.

Although various stakeholders are involved in delivering well-being programs across the countries and cities, all of the programs are either school or community-based and all value close partnership with community-based partners. Securing buy-in from community members, including youth, was cited by most interviewees as necessary for developing effective programs. Schools and ministries have served as strong leaders in all the case examples, except in Santa Monica, where the local city government has provided leadership. The commitment of schools to investing in well-being programs reflect educators' recognition of the importance of health in supporting academic achievement.

Some interviewees, particularly from the MENA region, stressed the importance of carefully considering local context when developing well-being programs. "What works in Jordan does not necessarily work in Qatar," one interviewee remarked.

A few of the frameworks described in Chapter 1 are used as a lens to develop and evaluate the well-being policies and programs in the case examples. The positive education approach and SEL were used most frequently. For example, Kuwait, Jordan, Ontario, and Singapore have placed an emphasis on promoting positive psychological, social, and emotional health in their youth well-being policies and implemented school-based programs to improve students' psychological, social, and emotional health.

New Zealand applies an integrated student supports model in which schools offer physical and mental health services. Santa Monica, Oman, and Demark place an emphasis on collecting comprehensive data to document the state of youth well-being, and track progress.

Evaluation efforts varied among the countries and cities. Some countries, such as Jordan and Kuwait, have conducted preliminary evaluations of individual-level interventions and found early evidence of short-term positive impact on youth educational and health outcomes. Findings are limited, however, by a lack of rigorous research design. Programs designed to create more systematic change, such as the Healthy Community School Programs in New Zealand and district-wide SEL initiative in Singapore, have encountered more challenges. Interviewees from New Zealand noted that coordinating services and building strong working relationships among educators and health staff at schools hindered successful implementation of the Healthy Community School Programs. Similarly, in Singapore, SEL has not been integrated into primary and secondary schools despite the focus of national policies on doing so (Chong & Lee, 2015).

The case study examples and the framework reviews have revealed similarly useful insights and findings. Policies and programs intended to influence individual attitudes and behaviors show the strongest evidence of success. Policies and programs designed to create systemic change were less effective. To effect change beyond the individual-level, policies and programs require much more human and social capital. Moreover, system-level changes are more difficult to document. As illustrated in the framework review, most well-being measures used in policy or program evaluation are assessments of individual-level attributes (e.g., growth mindset, psychological well-being, SEL skills, graduation rates). In comparison, the measures of school or community well-being are less developed. To improve well-being through connecting education and health, and to go beyond changing individual student outcomes, policies and programs should adopt a systems approach. Further research is needed to develop effective evaluation tools that meet the needs of these multi-level and complex policies and programs.

CHAPTER THREE

Next steps to promoting health and education for youth well-being: Considering strategy development, program delivery, and evaluation

The review of combined health and education frameworks for youth well-being provides guidance for future policies and programs. There are various approaches to the adoption, tailoring, and implementation of these well-being strategies. In the next sections, we describe the implications of these frameworks for broader youth well-being development, program implementation, and evaluation.

Implications for strategy development

A multi-systems approach to promoting positive education and health

Based on the state of the field and the analysis presented in Chapters 1 and 2, a youth well-being strategy that integrates education and health must consider a multi-systems approach. A narrow focus on supporting student growth mindset and mindfulness skills is limited because student ability to practice these skills is affected by the environment. In comparison, a systems approach to SEL and the integrated student supports model appear to produce stronger and longer-term educational and health outcomes. A multi-systems approach that connects education and health requires an integration of often disconnected systems. For example, a healthcare provider rarely asks about a child's educational attainment or school behavior. Similarly, teachers do not have the expertise or resources to care for a child's psychological or physical health. A multi-systems approach has the potential to gather experts and use resources from multiple youth-serving systems (e.g., schools, health clinics, youth development organizations) to meet the educational and health-related needs of youth (Kolbe, 2019). Research on the integrated student supports approach has demonstrated the effectiveness of such multi-systems approaches to provide comprehensive educational and health services and programs to youth in school setting.

Leveraging schools to promote positive education and health

As illustrated by the frameworks and interventions reviewed in Chapter 1 and case examples in Chapter 2, schools are often used as a host setting to deliver interventions that aim to support both educational and health outcomes in youth. White (2016) proposed important steps to consider when developing school-level well-being strategies (see Table 3.1). When discussing lessons learned from developing school-based programs in their respective locations, interviewees also described some of the critical steps. For example, staff program managers in Jordan discussed the partnership with the Ministry of Education as an important step to sustaining and expanding the programs. Furthermore, two experts knowledgeable about Kuwait's Bareec Education Initiative shared that the curriculum was developed in collaboration with researchers with expertise in the positive education approach. In Europe, the Schools for Health in Europe (SHE) initiative institutionalizes the use of schools in promoting student health. SHE provides technical support to member countries and helps them develop national health promoting school frameworks. Coordinated political and financial support, such as SHE, is critical to promoting health by developing and delivering effective, comprehensive school-based interventions (Deschesnes, Martin, & Hill, 2003; Kolbe, 2019). Finally, new training to focus on the intersection of education and health for educators and health practitioners (e.g., nurses, physicians, counselors, public health workers) is needed to transform schools into health-promoting educational institutions (Kolbe, 2019). For example, physicians who specialize in providing care to children and adolescents would benefit from training on identifying school-related problems. Teachers would benefit from training on health promoting activities, such as diet and nutrition and mental health prevention.

1.	**Leadership and vision**	For well-being to be taken seriously it requires committed and clear leadership with broad vision and mission to move schools/educational settings to move from being good, great to excellent
2.	**Governance**	Clear alignment between the roles and responsibilities of governance, management and strategy development and the operational steps that are required to ensure that these improvements are sustainable and have owners to make it happen
3.	**Partnerships**	Mutual partnerships with external thought leaders and experts in the field to build internal capacity
4.	**Measurement**	Rigorous measurement tools to ensure that leaders are able to articulate measures of success and key moments during project delivery
5.	**Knowledge transfer**	Models that are developed to ensure that roles and responsibilities in schools are clear and cohesive definitions around key terms that are aligned across the whole system
6.	**Interventions**	Evidence-based programs that have been shown to have positive impact on student well-being and development when fidelity to the course is observed
7.	**Communications**	Clear and coherent communications that demonstrate the goals, objectives and strategies for well-being

SOURCE: White, 2016

Table 3.1 Steps Towards Developing Well-being Policy in Schools

Civic participation – an additional pathway to positive education and health

Evidence from the literature review and case examples support the positive impact of Lerner's 5Cs (Confidence, Competence, Caring, Connection, and Character) on promoting positive educational and health outcomes in youth. In addition to the 5Cs, Lerner (2002) proposed that a sixth C – civic participation – is important to positive youth outcomes as well. Lerner et al. (2003) links youth positive development and well-being to civil society participation:

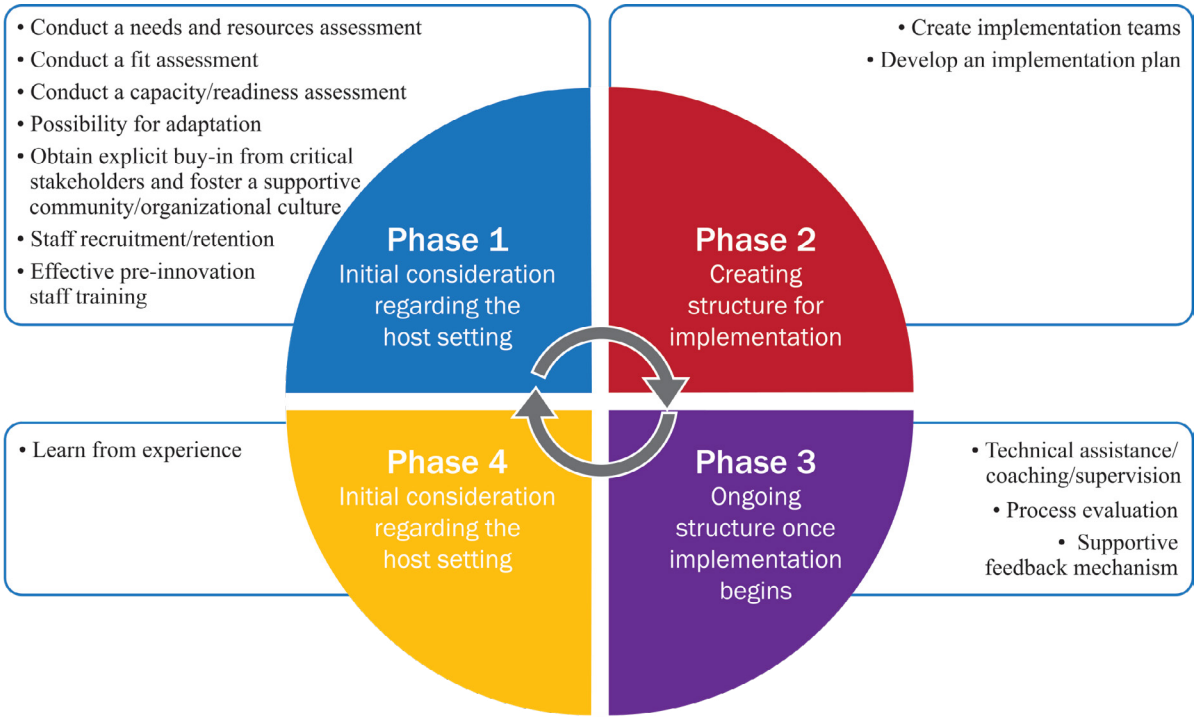
> *Thriving involves relative plasticity in human development and adaptive regulations of person–context relations. An integrated moral and civic identity and commitment to society beyond the limits of one's own existence enable thriving youth to be agents both in their own, healthy development and in the positive enhancement of other people and of society. Thriving youth become generative adults through the progressive enhancement of behaviors that are valued in their specific culture and that reflect the universal structural value of contributing to civil society.*

Civic participation comes in many forms, such as volunteering, community service, and voting. Regardless of the type of activities, the goal of civic participation is to enhance the well-being of one's community and society (Zaff, Boyd, Li, Lerner, & Lerner, 2010; Zaff et al., 2011). In recent years, researchers have increased their interest in understanding the potential positive effect of civic participation on multiple dimensions of youth well-being, including education and health (Chan, Ou, & Reynolds, 2014; Eisman, Stoddard, Bauermeister, Caldwell, & Zimmerman, 2017).

Chan and colleagues (2014) found that civic participation during adolescence was associated with higher life satisfaction and educational attainment during young adulthood in a group of African American youth. In another longitudinal study, African American youth who increased their participation in school, community, and religious institutions during adolescence reported lower risk of substance use during adulthood (Eisman et al., 2017). As such, youth well-being strategies that aim to promote positive educational and health outcomes should include civic participation. The two case examples from the MENA region (Kuwait and Jordan) include civic participation in their youth well-being policies. The *Makani* centers in Jordan place a strong emphasis on youth leadership and youth empowerment. Youth well-being strategies, therefore, should provide youth with opportunities to develop an interest in civic participation and skills needed to advocate for positive change for themselves and for their community.

Implications for program delivery and implementation

As illustrated in the literature review and case examples, it is not enough to identify a strategy or framework; how those are implemented must also be considered. Recent research in implementation science found that quality implementation has significant impact on the effectiveness of the intervention (DuBois, Holloway, Valentine, & Cooper, 2002; Durlak & DuPre, 2008). Quality implementation begins with the design of the intervention and ends with its assessment; this could lead to redesign of the intervention (Durlak et al., 2011). For instance, the Quality Implementation Framework (QIF) consists of four phases and 14 tasks (Meyers, Durlak, & Wandersman, 2012).



SOURCE: Meyers, Durlak, and Wandersman, 2012

Figure 3.1. The Quality Implementation Framework

As illustrated in Figure 3.1, implementation is an ongoing process and is likely to be developed through iteration. Each task may be revisited and adjusted as implementation progresses through the phases. Although quality implementation is likely to go through the phases sequentially, sometimes one might need to skip ahead or start with later tasks depending on the context and resources available. In the following sections, we use this framework to describe each phase in the context of examples and best practices from the case examples and the literature review.

Initial consideration regarding the host setting

Substantial preparation is needed prior to delivering an intervention. During the initial phase of implementation, a thorough assessment of the needs, strengths, capacities, and readiness of all stakeholders is needed. As discussed by a few interviewees from the MENA region and Santa Monica, the success of the intervention is tied to the extent to which the intervention meets the needs and utilizes the resources of the community. When implementing a school-based intervention, the capacity and readiness of the school is especially critical. The ***Nashatati*** program in Jordan purposefully selected schools that expressed interest in student well-being and had the resources (e.g., space) to implement the first round of programming.

The selection of the intervention depends on the needs and strengths of the students and other stakeholders who would be involved with delivering the intervention. Lerner's 5Cs (2013) are important to promoting youth well-being, including positive educational and health outcomes, but it is unlikely that one intervention can promote all of the 5Cs. Therefore, conducting a thorough needs and strengths assessment is critical prior to implementing an intervention. Once the needs and strengths are identified, it is important to select evidence-based interventions that have demonstrated positive outcomes of interest. When evaluating the evidence, it is critical to note for whom the intervention works. For example, growth mindset interventions appear to be more effective for high school students in comparison to younger students. It would be unwise to implement a growth mindset intervention at an elementary school. Choosing an evidence-based intervention that meets the needs and leverages the strengths of students and their environment is an important first step to creating positive change in outcomes.

Facilitating buy-in from stakeholders is another important task during the initial phase. The needs and readiness assessment can be used to obtain buy-in from stakeholders because an intervention that meets the needs and improves the capacities of the stakeholders is more likely to be received positively. When implementing school-based interventions, it is important to seek feedback and obtain buy-in from all parties involved, including groups inside and outside of the school. For example, teachers and other school personnel who are responsible for delivery need to be actively involved and invested in the success of the intervention. Youth involvement is vital. The ***Makani*** program in Jordan invites graduates to return and serve as peer educators. Outside of the school, engagement with families and community partners lays the foundation for a successful delivery of the intervention. For example, Santa Monica conducted focus groups with community members to seek feedback.

Furthermore, all stakeholders should contribute to defining well-being. As an interviewee from Ontario said, "well-being is complex and hard to quantify." A public health expert from Singapore cautioned against the adaptation of well-being initiatives to other cultural contexts without careful consideration of fit. Even within the same culture, members from different socioeconomic positions could potentially understand well-being differently. Thus, it is critical to solicit feedback from all sectors of the community.

In the context of connecting education and health to improve well-being, it can be particularly difficult to build consensus around the definition of well-being as stakeholders often come from various disciplines and positions of power (e.g., teachers, nurses, parents, government officials). The integrated student supports model utilizes a thorough community engagement process to identify key informants from multiple sectors and continuously seeks feedback from them during the implementation cycle.

Finally, capacity building needs to be carefully planned. First, it is critical to identify the extent to which the host organization (e.g., school) has all the resources needed to deliver the intervention. If there are gaps in resources, the implementation of the intervention should be thought of as an opportunity to increase the host organization's capacity. For example, interviewees shared that the UNICEF Jordan office worked carefully with local partners and the Ministry to Education to train staff members and to build connections between existing programs and the newly designed *Makani* and *Nashatati* initiatives to ensure that the new initiatives would benefit the existing services. This capacity building time is also taken to identify the personnel who will deliver the intervention and to ensure that they are committed and ready to participate. Training for facilitators needs to address more than skill-based competencies; it should prepare facilitators to feel confident in delivering the intervention. Research from growth mindset and mindfulness interventions indicates that teacher knowledge and commitment can influence the effectiveness of these interventions (Fraser, 2018).

Creating a structure for implementation

Once the initial tasks are completed, the next step is to develop a comprehensive implementation plan. The plan should describe the processes and structures that are needed to support the delivery of an intervention. For example, are there resources in place to support teacher training? Does school have to adjust class time to deliver the intervention? Clearly identified roles and responsibilities are also helpful to ensure a successful delivery.

In New Zealand, a conflict arose between nurses at a school and the principal, who wanted access to student health information. An agreed upon data collection and management protocol could have helped to resolve such conflict. A detailed implementation plan is also needed to ensure high treatment fidelity, important to the reliability and validity of an intervention (Bellg et al., 2004). When delivering a well-being intervention that connects education and health, the intervention is often delivered by various teachers or in different classrooms. It is important that all students in the treatment condition receive the same intervention. For example, Brainology, a school-based growth mindset intervention, includes a detailed implementation guide that contains schedules of online curricula, technical support, lesson guides, and materials for offline activities. The implementation plan should include solutions to potential problems that could arise during implementation.

Implications for evaluation

Phase three and four of the Quality Implementation Framework (QIF) describe the need for ongoing monitoring and evaluation.

Ongoing monitoring

After the intervention has been implemented, the task then becomes monitoring and documenting the progress. Evaluation of processes is needed to identify areas of improvement. Interviewees shared that the *Nashatati* program included regular supervision of teachers who were responsible for delivering the curriculum. Teachers received feedback from their supervisors to correct any deviations from curriculum and to improve their facilitating skills. Teachers also provided feedback about the relevance of the curriculum. The lessons learned from process evaluation can be used to make adjustment to the intervention and to inform its future implementation.

Impact evaluation

At the end of the implementation cycle, the focus is shifted to understanding how to improve future application, including an evaluation of impact and outcome. An evaluation should consider the short-term, intermediate, and long-term impact of the intervention. As discussed in previous chapters, most of the well-being interventions from the framework review and case examples included only short-term and intermediate outcomes. Evaluation needs to include longer-term educational outcomes such as post-secondary education completion rates, job readiness, and indicators of chronic health conditions. Alnowair, the non-profit organization that developed the Bareec Education Initiative, is currently working in Jordan closely with partner schools and the Ministry of Education to collect more comprehensive data on student physical health outcomes (e.g., smoking, hypertension) to test the overall effectiveness of Bareec over time.

It is important to evaluate the extent to which youth well-being interventions influence family, neighborhood, and societal-level well-being, particularly given the need for embedded well-being strategies operating at the community and national levels, as described in the prior sections. If an intervention is helping students to achieve academically and to have a healthy lifestyle, their family, neighborhood, and the larger society are likely to be affected as well.

Cost and benefit analysis can be used to demonstrate how an intervention aims to address an individual outcome (e.g., high school graduation, healthy eating) can have a significant influence on the society at large. Evaluations of the integrated student supports model found that the return on investment ranged from four to 15 dollars (US) per every dollar spent (Bowden et al., 2015).

It is also important to use reliable and valid measures to assess the pathways to positive outcomes. As discussed in Chapter 1, gains in the 5Cs are associated with positive educational and health outcomes in youth. The literature review of frameworks and the analysis of case examples have identified a number of indicators of the 5Cs. Growth mindset is an indicator of confidence; social-emotional learning skills are indicators of social competence and confidence. In Table 3.2, we include measures that have been used in the evaluations of the interventions described in Chapter 1 and case examples in Chapter 2. We highlight ones that have been used with Arabic-speaking populations. It is also important to note that all indicators were measured at the individual-level.

Once there is sufficient evidence to support the effectiveness of an intervention, it is important to continue to innovate and to explore how to scale up to increase the reach and impact of an intervention. Yeager and colleagues have redesigned and tested various versions of the growth mindset intervention with the goal of developing cost-effective and scalable school-based approaches to improve student educational and health outcomes.

Construct (with links to 5C)	Measure	Number of Items	Arabic-speaking Population
Growth Mindset (Competence, Confidence)	Intelligence Mindset Questionnaire (Dweck, 2000; Dweck, Chiu, & Hong, 1995b)	8	No
	CORE District Survey	4	No
Mindfulness (Confidence)	Five-Facet Mindfulness Questionnaire (Baer et al., 2006)	39	No
	Kentucky Inventory of Mindfulness Skills (Baer, Smith, & Allen, 2004)	39	No
Emotional Regulation (Competence)	Emotion Regulation Questionnaire (Merhi & Kazarian, 2015)	10	Yes
Social-emotional Learning (Competence, Confidence, Connection, Character, and Caring)	Behavioral and Emotional Rating Scale (Hamilton, Stecher, Schweig, & Baker, 2018)	57	No
	California Healthy Kids Survey – Social Emotional Health Module (Hamilton et al., 2018)	46	No
	Social-Emotional Assets and Resilience Scales (Hamilton et al., 2018)	35	No
Positive Emotions (Confidence)	Scale of Positive and Negative Experience (Diener et al., 2009)	12	Yes

	Arabic Sale of Optimism and Pessimism(Abdel-Khalek, 1996; Abdel-Khalek, 1998)	15	Yes
Student-Teacher Relationship (Connection)	Student-Teacher Relationship Scale-Short Form (Pianta, 2001)	15	No

Table 3.2 Measures of Indicators of 5Cs

CHAPTER FOUR

Policy and program recommendations

In this chapter, we present policy and program recommendations for countries and communities seeking to support positive educational and health outcomes in youth. We first present policy recommendations that incorporate best practices collected from the review of frameworks and the examination of the case examples. We then present a list of intervention and implementation recommendations for researchers and practitioners who are implementing appropriate interventions. The recommendations are informed by our analysis of the well-being frameworks and findings from case examples as well.

Policy recommendations

• **Develop a national framework to connect education and health.** The Middle East and North Africa Life Skills and Citizenship Education Initiative (LSCE) and the Ontario Well-being Initiative are two examples of regional and national youth well-being frameworks that integrate health into educational settings. The framework would outline various pathways including confidence, character, competency, caring, connection, and civic participation. The national framework would guide the development of interventions toward meeting the needs and utilize the strengths of children and adolescents while promoting a common language and understanding of youth well-being and education. Creating systemic change such as shared understandings and a shift in mindsets is critical to sustainable impact.

• **Create a structure to facilitate a multi-systems approach: an inter-departmental collaboration between a Ministry of Education and a Ministry of Public Health**. In Santa Monica, New Zealand, and Singapore, various agencies within the government work together to implement the broader youth well-being policy. A policy that aims to address both educational and health outcomes in youth would require expertise and resources from both ministries. A strong collaboration can ensure that education and health policy would complement other policies and programs across ministries. The partnership between WISE and WISH is an excellent example of how organizations with distinct foci can work together to build bridges to inform policy and practice.

• **Establish a national resource center to provide technical support to schools and communities interested in implementing well-being interventions to improve academic achievement and health in youth.** For example, the CORE District in California is a coalition of school districts that are interested in pursuing student overall well-being through educational policies. CORE developed a standardized measure to assess youth well-being, including growth mindset. All members have used the data to inform their school practices. CORE also serves as a technical center. It identifies districts using the standardized youth well-being measure and creates communities of practice in which districts with similar characteristics meet regularly to share best practices (West, Buckley, Krachman, & Bookman, 2018).

• **Develop an annual national school-based survey to assess the educational achievement and health among school-aged students.** For countries in the MENA region, measures such as the Arabic Scale of Optimism and Pessimism and Scale of Positive and Negative Experience are particularly relevant as they have been used with Muslim youth in previous research. Questions to assess health and well-being can be added to any existing school-based surveys such as the Comprehensive Educational E-Survey administered by Qatar's Ministry of Education and Higher Education. Data from the survey can be used to create report cards to monitor national progress.The cases of Oman and Santa Monica are two examples in which data is used to inform policy and program development.

• **Identify and promote the use of evidence-based interventions as suggested by White (2016).** Encouraging the use of evidence-based interventions guided by the national framework would support quality, and reduce wasting resources on ineffective programs. The national resources center could serve as a clearing house to disseminate evidence-based interventions, facilitate their evaluation, and publish best practices.

Intervention and implementation recommendations

• **Develop a logic model to describe the inputs, activities, outputs, and outcomes of the well-being intervention**. A logic model (see Chapter 1) explicitly illustrates how the well-being intervention is suggested to support educational and health outcomes in youth. It links activities (e.g., curricula) to outputs, which are often the mediating processes that explain the relationship between the intervention and outcomes. Outputs then are linked to short-term, intermediate, and long-term outcomes. A logic model serves as a guide for ongoing evaluation of process and outcome.

• **Build consensus around the goals of the intervention among diverse stakeholders.** School administrators are likely to focus on educational outcomes; school nurses may place a stronger emphasis on physical activity and healthy eating. The chosen intervention, therefore, needs to improve well-being outcomes that are important to all stakeholders. The intervention needs to address the priorities of the national framework of youth well-being.

• **Develop an advisory board comprising representatives of all relevant stakeholders.** Advisory board members have the responsibility to inform and guide the development, delivery, and evaluation of the intervention. The *Makani* centers benefit from having a family protection committee. It is important to conduct meaningful outreach to diverse communities to ensure that underrepresented communities (e.g., schools in lower income neighborhoods), including youth, have equal opportunities to join the advisory board. Youth well-being experts and researchers should be included as board members as key sources of knowledge and information. Practitioners such as educators, clinicians, and social workers are important to include as they have the most direct experience working with and providing services to youth.

• **Conduct both process and outcome evaluations to monitor implementation and assess effectiveness.** Process evaluation is helpful in identifying how an intervention is bringing about change in youth education and health. Findings can be used to monitor implementation progress and make adjustments. Outcome evaluation is needed to document the overall effectiveness of the intervention. Both types of evaluation are necessary; a logic model serves as a guide to both.

• **Build capacity to deliver and sustain the intervention.** The intervention should enhance or improve the existing services and resources of the host organization. The *Nashatati* and *Makani* programs in Jordan intentionally partner with local NGOs to increase local community capacity to sustain the programs.

A school-based mindfulness intervention can utilize the train-the-trainer model in which selected teachers receive professional training to train their peers. Implementing system-level changes (e.g., training all teachers) has the potential to change the culture of school and to produce long-lasting impact.

Conclusion

CHAPTER FIVE

The purpose of this report is to support the integration of health and education policies and programs for youth well-being. It presents a summary and analysis of existing research on ways to achieve this, and how to assess the various efforts. Our analysis found that developing interventions across multiple systems is critical to producing sustainable impact on youth educational and health outcomes. We identified case examples of communities and countries globally which have developed and implemented policies and programs that integrate health with education. We found that many educators and policymakers have embraced a shift toward multi-systems youth well-being policies that explicitly recognize the importance of integrating education and health. Programs still retain, however, a stronger practice of targeting individual attitudes and behaviors.

Based on the literature review of frameworks and analysis of the case examples, we highlight three directions for communities and countries seeking to integrate education and health into their youth well-being strategies.

As discussed, a multi-systems approach that leverages resources and expertise from multiple systems serving youth is critical. Of the multiple systems involved, school is a key partner; broad civic participation also emerged as an important player. Youth well-being strategies, therefore, should provide opportunities for young people to explore their interest in civic participation and to develop social skills to advocate for positive change for themselves and in their communities.

The next step, quality implementation of an intervention, has significant impact on the effectiveness of any intervention. It begins with the design phase and ends with an assessment of the outcome; this could lead organically to an iterative process of reevaluation and redesign. We found that creating a detailed implementation plan that clearly outlines activities, responsibilities, and establishes careful protocols is essential to achieving high quality implementation and good results. Systematically collecting process and outcome data to accurately monitor the implementation will be a valuable, key component of the intervention and in subsequent editions, as well as informing policy development.

Appendix

Key informant interview

Background:

1. What is your professional background?

2. How long have you been working with the (specific program/organization)?

3. How did the program/policy come about? (Probe: motivation, was it organization led, part of some larger mandate or strategy, etc.)

4. Can you briefly describe the program/policy? OR Can you tell me more about (specific components that we need additional information)? (Probe: how much was the evidence base used to design program)

5. How do you see this program/policy in the broader effort to promote well-being?

6. Overall, what do you think is most important to the success of the program/policy?

7. What changes, if any, would you make to the program/policy?

Implementation:

1. Thinking back to when you and your team first implemented the program/policy, what was most helpful to the implementation? (probe: institutional support, organizational characteristics, staff training, cultural appropriateness of program, etc.)

2. What were some of the challenges? How did you and your team solve these problems?

3. What are some of the most important lessons learned?

4. What recommendations would you give to an organization that is looking to implement a similar program/policy?

Evaluation/Assessment:

1. Have you and your team conducted any formal evaluation or assessment of the program/policy?

If yes (ask if they would be willing to share any materials),

- What type of evaluation did you conduct?
- What student outcomes did you include? How did you measure them?
- Did you include other outcomes (e.g., family, school, community, organizational, systems)?
- What did you learn from the evaluation?

If no,

- How do you track progress/changes? What makes it difficult to track these types of outcomes, if there are any barriers?
- What are some of the expected student outcomes? Any other outcomes (e.g., family, school, community)?
- What is working? What is not working?

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Wing Yi Chan is a behavioral/social scientist at the RAND Corporation. She studies individual and systemic processes that support resilient individuals and communities. Specifically, she leads studies on prevention of problem behaviors and promotion of positive developmental trajectories in adolescents and young people who have experienced marginalization. She also conducts research to evaluate the effectiveness of school- and community-based prevention programs designed to promote resilience in vulnerable youth.

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About RAND Corporation

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

ABOUT WISH

The World Innovation Summit for Health (WISH) is a global healthcare community dedicated to capturing and disseminating the best evidence-based ideas and practices. WISH is an initiative of Qatar Foundation for Education, Science and Community Development (QF) and is under the patronage of Her Highness Sheikha Moza bint Nasser, its Chairperson.

The inaugural WISH Summit took place in Doha in 2013 and convened more than 1,000 global healthcare leaders. Through international summits and a range of ongoing initiatives, WISH is creating a global community of leading innovators in healthcare policy, research and industry.

Together, they are harnessing the power of innovation to overcome the world's most urgent healthcare challenges and inspire other stakeholders to action.

About WISE

The World Innovation Summit for Education was established by Qatar Foundation in 2009 under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser. WISE is an international, multi-sectoral platform for creative, evidence-based thinking, debate, and purposeful action toward building the future of education. Through the biennial summit, collaborative research and a range of on-going programs, WISE is a global reference in new approaches to education.

The WISE Research series, produced in collaboration with experts from around the world, addresses key education issues that are globally relevant and reflect the priorities of the Qatar National Research Strategy.Presenting the latest knowledge, these comprehensive reports examine a range of education challenges faced in diverse contexts around the globe, offering action-oriented recommendations and policy guidance for all education stakeholders. Past WISE Research publications have addressed a wide range of issues including access, quality, financing, teacher training and motivation,school systems leadership, education in conflict areas, entrepreneurship, early-childhood education, twenty-first century skills, design thinking, and apprenticeship, among others.

Acknowledgments

The authors would like to thank Her Highness Sheikha Moza bint Nasser, Chairperson of Qatar Foundation, and the leadership of Qatar Foundation, for their unwavering commitment to the causes of education and health globally. It was the vision and guidance of Her Highness that led to the creation of both the World Innovation Summit for Education (WISE) and the World Innovation Summit for Health (WISH). Without her ongoing support, this Report would not have been possible.

We also appreciate the contributions of Dr. Asmaa E. Al-Fadala and Dr. Ahmed M. Baghdady from WISE, and Dr. M. Walid Qoronfleh from WISH.

We would also like to extend our appreciation to all the interviewees who generously shared their time and expertise with us. The interviewees informed our analysis of the case examples included in this report.

Finally, we would like to thank our peer reviewers, Michael Dunbar of RAND Corporation, and Jonathan Zaff of Boston University, as well as Malcolm Coolidge for editing the report, and Frazil House Advertising for its design and layout.

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