Chapter 8
School-Based Social and Emotional Learning Interventions: Common Principles and European Applications

Neil Humphrey

Abstract In this chapter, I provide an overview of contemporary theory and research relating to universal, school-based social and emotional learning (SEL) interventions. I begin with a working definition and brief discussion of the rationale for SEL, before getting "under the hood" to consider the form, function, and characteristics of available interventions. I provide illustrative examples throughout, with a particular emphasis on those originating in Europe. There follows a discussion of the evidence pertaining to outcomes and moderators of SEL programs, including cultural transferability, stage of evaluation, implementation variability, differential responsiveness, intervention characteristics, and developer involvement in evaluation.

The Case for Social and Emotional Learning

Universal, school-based social and emotional learning (SEL) interventions foster the social and emotional skills of children and young people through explicit instruction in the context of learning environments that are safe, caring, well-managed, and participatory (Humphrey, 2013; Weissberg, Durlak, Domitrovich, & Gullotta, 2015). SEL skills include self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2013). Such skills have considerable utility. They aid children to effectively navigate the social world and promote resilience to bullying and victimization, violence, and a wide range of other negative processes and outcomes (Sklad, Diekstra, De Ritter, Ben, & Gravesteijn, 2012). Crucially, SEL skills also facilitate learning in the classroom (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Learning is a social process, and it stands to reason that improved social and emotional competence will

N. Humphrey (✉)
Manchester Institute of Education, University of Manchester, Manchester, UK
e-mail: neil.humphrey@manchester.ac.uk

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facilitate academic success. Indeed, research demonstrates that social and emotional skills and academic progress are positively interrelated (Qualter, Gardner, Pope, Hutchinson, & Whiteley, 2012). Furthermore, longitudinal studies highlight the predictive utility of childhood social-emotional competencies for mental health and labor market outcomes in later life (Goodman, Joshi, Nasim, & Tyler, 2015).

In mapping SEL and its theoretical roots, Humphrey (2013) argues that it represents the application to education of emotional intelligence (EI) theory and research (e.g., Mayer, Roberts, & Barsade, 2008) and developmental psychological models of social-emotional competence (e.g., Denham & Brown, 2010) within the broad principles of implementation and prevention science (e.g., August, Gewirtz, & Realmuto, 2010; Ogden & Fixsen, 2014). In relation to EI, it is not difficult to see the influence of Salovey and Mayer's (1990) ability-based model (and the body of work that followed it) in many, if not all, SEL interventions. With regard to developmental psychology, Saarni's (1999) thesis on the development of emotional competence and Rose-Krasnor's (1997) work on the nature of social competence are also evident. In terms of prevention and implementation science, SEL draws heavily on the "inoculation metaphor" in its positioning of a universalist approach as the optimal means for achieving widespread social change (Humphrey, 2013; see also Chap. 12 by Elias, Nayman, & Duffell, this volume) while also underscoring the importance of delivery processes (e.g., implementation quality) to achieve this (Durlak, 2016). More broadly, much contemporary SEL borrows liberally from Bronfenbrenner's (2005) ecological systems theory and Masten's (2014) propositions regarding risk and protective processes in human development. Finally, SEL is also associated with work on moral and character education, sharing as it does an emphasis on concepts such as respect, justice, honesty, and integrity (Elias, 2009).

The rationale for SEL has evolved and shifted over time and across countries and cultures, though a central thread throughout is the notion of a youth in crisis (Ecclestone & Hayes, 2008; Hoffman, 2009). Early work in the United States (USA) emphasized the potential role of SEL in stemming a perceived rise in school violence and substance abuse (Merrell & Gueldner, 2010). In the United Kingdom (UK), the emergence of SEL can be seen initially as a response to concerns about child well-being triggered by international comparative research (e.g., Institute for Public Policy Research, 2006; UNICEF, 2007), alongside governmental concerns regarding antisocial behavior and a perceived need to capitalize on growing public and professional interest in populist work on EI (e.g., Goleman, 1995) (Humphrey, 2012). More recently, a discursive shift has seen SEL repurposed as a central component of efforts to promote resilience to the onset of mental health problems against the backdrop of a public health crisis caused by cuts to children's services in this area (Humphrey, Wigelsworth, Lendrum, & Greenberg, 2016).

Proponents of SEL are also increasingly able to draw on economic, neuroscientific, and epigenetic evidence as a means to establish its legitimacy. In relation to economics, emerging evidence positions SEL as providing a positive "return on investment" (Jones, Greenberg, & Crowley, 2015). For example, a recent analysis of six prominent SEL interventions (4Rs; Positive Action; Life Skills Training;

Second Step; Responsive Classroom; and Social and Emotional Training) showed an aggregate benefit-cost ratio of 11 to 1; that is, for every dollar invested, there is a return of 11 dollars (Belfield et al., 2015).[1] With regard to neuroscience, consider the idea of putting feelings into words. This is an extremely common SEL strategy promoted as a means to manage difficult social experiences. Lieberman et al.'s (2007) imaging study provides neuroscientific evidence to support this, demonstrating that affect labeling acts as a disruptor to amygdala activity in response to affective stimuli while also increasing activity in the prefrontal cortex. That is, labeling our emotional experiences helps us to think before we act. Finally, research in the field of behavioral epigenetics – how nurture shapes nature to influence behavior – is providing powerful insights into the processes and mechanisms by which SEL in early childhood may yield positive outcomes throughout the lifespan, particularly for children deemed to be "at risk." For example, Weaver et al.'s (2004) experiments with rats demonstrated how variation in maternal behaviors (in this case, pup licking and grooming and arched-back nursing) altered epigenetic signals that control the activation of stress response genes. Put more simply, the researchers identified an epigenetic mechanism through which they were able to show how a nurturing environment switched on genes that enabled the rat pups to deal with stress more effectively as adults. While caution is needed in generalizing the implications of such studies to similar processes in human development, the parallels with the logic and theory of SEL are self-evident.

Under the Hood: Form, Function, and Characteristics of SEL Interventions

Before examining SEL interventions in more detail, it is worth briefly exploring what we mean when we talk about "interventions." Fraser and Galinsky (2010) offer a helpful definition, defining them as "purposively implemented change strategies" (p. 459). Thus, an intervention is *purposive*; it is intentional, not accidental. Second, an intervention is *implemented*; it therefore represents a set of activities, processes, and actions – things that are done that can be observed or inferred. Third, interventions are about *change*. One level of change refers to the differences in the activities, processes, and actions that characterize the intervention as compared to what was done before it was introduced. The second level of change refers to the intended outcomes that are the ultimate product of the intervention. Finally, interventions are *strategic*; that is, their constituent components form a coherent, organized plan to bring about the change noted above.

[1] Such ratios are determined by calculating "shadow prices" (e.g., applying a monetary value) for the various benefits accrued through SEL, such as reducing aggressive behavior and weighing these up against the cost of all of the inputs required to implement the intervention (e.g., training, materials).

Taxonomies and frameworks in the published literature (Forman, 2015; Foxcroft, 2014; Humphrey, 2013; Moore et al., 2015) indicate that interventions can be characterized by a number of features, including:

- Form (e.g., universal, selective, indicated)
- Function (e.g., environmental, developmental, informational)
- Level and location (e.g., individual, group, family, school, community, societal)
- Complexity and component structure (e.g., single component, multicomponent; curriculum, environment/ethos, parents/wider community)
- Prescriptiveness and specificity (e.g., manualized, flexible)
- Intervention agents (e.g., teachers, external staff)
- Recipients (e.g., teachers, students)
- Procedures and materials (e.g., what is done, how often)

The definition provided earlier positions SEL as a universal approach in terms of form. The function of this approach is primarily developmental in nature because of the focus on "the development of skills that are key in socialisation and social development of appropriate behaviours" (Foxcroft, 2014, p. 820). The interventions discussed in this chapter are located in schools. However, I recognize and acknowledge the potential for SEL interventions to take place elsewhere, such as youth work settings – although, by definition, these tend *not* to be universal; furthermore, the evidence base for such work is much less robust (Clarke, Morreale, Field, Hussein, & Barry, 2015).

Moving beyond these basic features, we begin to see evidence of the considerable diversity that characterizes the field and how this is influenced by the cultural context in which programs are developed, as described in the next section on SEL interventions in Europe and in other writings (Torrente, Alimchandani, & Aber, 2015; see also Chap. 5 by Huynh, Oakes, & Grossmann, this volume). To illustrate this, the reader is asked to consider two contrasting examples: the Promoting Alternative Thinking Strategies (PATHS) curriculum developed in the USA (Greenberg & Kusche, 1993) and the Social and Emotional Aspects of Learning (SEAL) program developed in England (Department for Children Schools and Families, 2007; Department for Education and Skills, 2005b). In terms of complexity and component structure, the "backbone" of PATHS is a series of grade-specific classroom curriculum modules designed to teach children to manage their behavior, understand their emotions, and work well with others. It may therefore be described as a single-component program.[2] By contrast, despite having similar aims, SEAL was designed to be multicomponent, comprising four key elements: (i) the use of a whole-school approach to create a positive school climate and ethos, (ii) direct teaching of social and emotional skills in classroom contexts (akin to the PATHS taught curriculum), (iii) the use of teaching and learning approaches that support the learning of such skills, and (iv) continuing professional development for school staff. In terms of prescriptiveness, SEAL was envisaged as a loose enabling

[2] Although PATHS also includes generalization activities and some parent materials, these do not receive as much attention in the program materials and are arguably peripheral.

framework for school improvement, with schools encouraged to "take from it what they wish" (Weare, 2010, p. 10) rather than follow a single model of implementation. This flexibility was designed to promote local ownership and sustainability while also encouraging professional autonomy (Humphrey, Lendrum, & Wigelsworth, 2010). On the other hand, PATHS offers an example of a manualized intervention in which fidelity (e.g., lesson "scripts" provided for teachers) and dosage (e.g., to be taught twice per week) of implementation are seen as being central to the achievement of intended outcomes.

Turning now to intervention agents, we see some shared ground between PATHS and SEAL. Both programs see the class teacher as being the principal implementer and agent of change. Similarly, both also view other adults in school (e.g., the head teacher, paraprofessionals, lunchtime supervisors) as being integral to creating a climate that is congruent with the aims of the program and in reinforcing its principles. With regard to recipients, however, there is divergence once more. While both programs position students as the primary recipients of the intervention, SEAL also gives explicit consideration to the notion that school staff will benefit from support: "social and emotional skills are as central to the performance and emotional well-being of staff as they are to the learning and well-being of young people" (Department for Children Schools and Families, 2007, p. 35). The secondary SEAL guidance document reflects this view, with staff development given prominence as one of the substantive sections.

Finally, in terms of materials and procedures, PATHS utilizes curriculum packs for each class containing lessons and send-home activities that cover topics such as identifying and labeling feelings, controlling impulses, reducing stress, and understanding other people's perspectives, in addition to associated physical resources and artifacts (e.g., posters, feelings dictionaries). PATHS lessons follow a common format that includes an introduction from the teacher, in which the lesson topic and objectives are introduced; a main activity, often built around a group activity or story; and a brief plenary/closure, in which learning is reviewed. Frequent prompts to elicit student responses and clarify learning are included throughout. The program utilizes a "spiral" curriculum model, whereby (i) topics and concepts are revisited; (ii) units and lessons are developmentally sequenced; (iii) new learning is linked to previous learning; and (iv) the competence of learners increases with each successive visit to a topic or concept.

By contrast, the SEAL materials are presented thematically. For example, in primary SEAL, schools begin the new academic year by working through the "New Beginnings" theme, in which "children explore feelings of happiness and excitement, sadness, anxiety and fearfulness, while learning (and putting into practice) shared models for calming down and problem-solving" (Department for Education and Skills, 2005a, p. 1). SEAL implementation in schools is supported by a number of guidance documents and materials pertaining to its different components (e.g., Family SEAL, SEAL small group work) and versions (e.g., primary SEAL, secondary SEAL). However, consistent with the flexible approach noted earlier, schools are actively encouraged to explore different approaches to implementation that support identified school improvement priorities rather than follow a single model.

This philosophy is reflected in the absence of materials for some components. For example, in the primary SEAL, small group work guidance materials were only available for four of the seven themed interventions, with school staff encouraged to develop their own (Department for Education and Skills, 2006). In the guidance materials produced for secondary SEAL, a variety of contrasting implementation case studies are included (Department for Children Schools and Families, 2007).

SEL Interventions in Europe

Recent years have seen significant growth in the prominence of SEL in education systems around the world (Marcelino Botin Foundation, 2011; Torrente et al., 2015). To name but a few, countries that have actively embraced SEL include the USA, the UK, Australia, Sweden, Singapore, Italy, Portugal, Spain, and the Netherlands. Early work in the USA undoubtedly laid the groundwork for the development of SEL elsewhere in the world and has certainly been predominant in the academic literature. For example, in an oft-cited meta-analysis of SEL interventions, 87% of trials had been conducted in the USA (Durlak et al., 2011). In Europe, the increasing interest in SEL has yielded two approaches to implementation. First, a number of countries and jurisdictions have opted to "import" existing SEL interventions (typically, though not always from the USA) and adapt them to suit their cultural context and needs. For example, we have seen the implementation of the adapted versions of the Second Step curriculum in Germany (Schick & Cierpka, 2005) and Norway (Holsen, Smith, & Frey, 2008); the aforementioned PATHS in the UK (Berry et al., 2015; Ross, Sheard, Cheung, Elliott, & Slavin, 2011), the Netherlands (Goossens et al., 2012), and Switzerland (Malti, Ribeaud, & Eisner, 2011); and the FRIENDS intervention in Germany (Essau, Conradt, Sasagawa, & Ollendick, 2012), with varying degrees of success (see discussion of cultural transferability as a moderator of outcomes in the next section).

Second, advocates in a number of European nations have opted to develop and implement their own, "homegrown" models of SEL intervention. These are the principal focus of this section, for several reasons. US-based interventions have received ample coverage elsewhere (see, e.g., CASEL, 2003, 2013; Durlak, Domitrovich, Weissberg, & Gullotta, 2015), including other chapters in this volume (see, e.g., Chap. 9 by Espelage, King, & Colbert, this volume; Chap. 7 by Hoffman, Ivcevic, & Brackett, this volume). By contrast, there has been less attention to European interventions, which rarely feature in major SEL texts. Furthermore, it has been argued by Weare and Nind (2011) that the focus on principles such as autonomy, local adaptability, and ownership in European nations and cultural contexts tends to produce approaches to SEL that are distinct from many developed in the USA, being more flexible, non-prescriptive, and holistic in nature, "emphasizing not just behaviour change and knowledge acquisition, but also changes in attitudes, beliefs and values" (p. 65). The preceding contrast between PATHS and SEAL provides a case in point for this claim.

Examples of "homegrown" European interventions include (but are not limited to) Zippy's Friends in a variety of European nations (Holen, Waaktaar, Lervåg, & Ystgaard, 2012), the aforementioned SEAL program in England (Department for Children Schools and Families, 2007; Department for Education and Skills, 2005b), By Your Hand (Cavioni & Zanetti, 2015) and The Stories of Ciro and Beba (Grazzani, Ornaghi, Agliati, & Brazzelli, 2016) in Italy, Slowly But Steadily (Raimundo, Marques-Pinto, & Lima, 2013) and Positive Attitude (Coelho, Marchante, & Sousa, 2015) in Portugal, the Peer-Helping Game in Spain (Garaigordobil & Echebarría, 1995), Promoting Pro-social Behavior in the Netherlands (Mooij, 1999), and Social and Emotional Training in Sweden (Kimber, Sandell, & Bremberg, 2008). Having already provided a description of the SEAL program in the preceding section, below I provide a brief outline of three of these European SEL interventions: Zippy's Friends, Social and Emotional Training, and Slowly But Steadily.

Zippy's Friends (Various Countries)

It is difficult to assign Zippy's Friends a specific country of origin because it was developed by Befrienders Worldwide, who has centers in over 40 countries, and a team of European academics. It is now implemented in early primary education (ages 5–7) settings in a large number of European nations (including the UK, Ireland, the Netherlands, Denmark, and France) and, indeed, countries across the world (e.g., the USA, Chile, India). The primary aim of the intervention is to improve children's mental health and well-being by equipping them with the social and emotional skills that enable more effective coping in difficult circumstances. Zippy's Friends promotes eight key principles, as follows: (i) children choose their own solutions; (ii) positive skills are reinforced; (iii) repetition and continuity are essential for learning; (iv) abilities are developed in different settings; (v) children are active participants; (vi) children help each other; (vii) children evaluate their own success; and (viii) teachers are open to listening to children (Partnership for Children, 2016).

The intervention follows a modular approach built around six stories about Zippy, a stick insect, and his friends, a group of children. The stories focus on feelings, communication, making and breaking relationships, conflict resolution, dealing with change and loss, and coping. Each story is explored over the course of 4 weekly sessions, wherein part of the story is read by the teacher and children then participate in a range of activities including games, drawing, and discussion. Sessions follow a common format that begins with a review of previous learning and ends with each child providing feedback to reflect their feelings (Partnership for Children, 2016).

A number of studies provide evidence of the impact of Zippy's Friends. For example, Holen et al.'s (2012) randomized trial conducted in Norway found significant effects on children's coping skills and mental health. Similarly, Clarke, Bunting, and Barry's (2014) randomized trial in Irish schools found intervention effects on children's self-awareness, self-regulation, motivation, and social skills.

Social and Emotional Training (Sweden)

Social and Emotional Training (SET) was developed in Sweden and focuses on the promotion of children's self-awareness, self-regulation, empathy, motivation, and social skills and takes inspiration from US-based SEL interventions (Kimber, Sandell, & Bremberg, 2008). It is delivered by class teachers throughout Grades 1–9 (ages 7–16), encompassing primary and lower secondary education. Like PATHS, SET centers on the delivery of a taught curriculum. Thus, teachers work through a series of 45-minute lessons with children. In primary education settings, these sessions are delivered twice a week; in lower secondary settings, the sessions are delivered once a week. Across the curriculum, a series of themes are addressed, as follows: "social problem solution, handling strong emotions, appreciating similarities and differences, clarification of values, conflict management, interpretation of pictures and narratives, making more of what makes one feel good, resisting peer pressure and being able to say 'No', knowing what one is feeling, recognizing people and situations, cooperation, listening to and relaying messages, setting goals and working to attain them, giving and receiving positive feedback and stress management" (Kimber et al., 2008, p. 136). The lessons themselves include role-play and modeling exercises, and there is an emphasis on participating children and young people practicing in- and outside of school contexts to promote generalization of skill acquisition.

Kimber's (2011) doctoral research for the Karolinska Institutet draws together the evidence for SET, which has been published across a variety of outputs (e.g., Kimber et al., 2008) since the intervention was first implemented in Sweden in the early 2000s. Her quasi-experimental study demonstrated favorable effects of SET on the prevention of mental health difficulties and risky behaviors (e.g., alcohol use) among adolescents.

Slowly but Steadily (Portugal)

Slowly But Steadily (SBS) was designed to draw upon the key concepts and principles emerging from the developing evidence base for SEL but using materials developed and piloted in the Portuguese educational and cultural context. Thus, the intervention theory borrows from the affective-behavioral-cognitive-dynamic model that underpins the aforementioned PATHS curriculum while also applying the principles of ecological systems theory (Bronfenbrenner, 2005). It consists of a taught curriculum that includes units focusing on self-awareness, social awareness, emotion regulation, interpersonal skills, and responsible decision-making. SBS is delivered using a range of approaches including didactic instruction, posters, storytelling, reflection activities, modeling, role-playing, feedback, reinforcement (social and self), and group games. For example, in the Emotions Game, played as part of the self-awareness unit, children receive cards containing a word describing

an emotion and are required to enact it for the other members of the class, who have to guess what emotion is being portrayed. A recent quasi-experimental study of SBS by Raimundo et al. (2013) demonstrated significant intervention effects on peer relations and social competence.

Outcomes and Moderators of SEL Interventions

The empirical basis supporting the use of SEL interventions is growing. Three recent meta-analyses have provided robust evidence demonstrating their efficacy in improving children's social-emotional competencies and reducing mental health problems, in addition to a range of other salient outcomes (Durlak et al., 2011; Sklad, Diekstra, De Ritter, Ben, & Gravesteijn, 2012; Wigelsworth, Lendrum, Oldfield, Scott, Ten-Bokkel, Tate, & Emery, 2016). The effect sizes in relation to these outcomes suggest that, on average, SEL interventions produce meaningful and practically significant change. For example, the most recent of the above meta-analyses reported an effect of $d = 0.53$ on the primary outcome of social-emotional competence (equivalent to a 20 percentile-point improvement using Cohen's U3 index; Durlak, 2009), alongside effects of $d = 0.33$ (13 percentile-point improvement) for pro-social behavior and $d = 0.28$ for both conduct problems and academic achievement (11 percentile-point improvement).

However, these aggregated effects mask considerable heterogeneity at the individual study level. Not all SEL interventions are equally effective for all students (Wiglesworth et al., 2016). Given this, an important task is to identify the key moderators of SEL outcomes. A useful starting point given the preceding discussion is cultural transferability.

Cultural Transferability

As noted above, most SEL trials to date have been conducted in the USA (Durlak et al., 2011). However, transferability cannot be assumed (Weare & Nind, 2011). This is particularly true in cases where evidence-based interventions are "exported" to other countries and cultures, as has been the case in some European nations and jurisdictions. A perceived lack of fit between a given intervention and the needs, values, and expectations of adopters may act as a significant barrier to implementation; as such, a major factor in the successful transportability of interventions is their adaptability (Castro, Barrera, & Martinez, 2004). By way of example, consider the aforementioned PATHS curriculum: evidence of its efficacy is much more consistent in US-based studies than those carried out elsewhere in the world (including trials in the UK, the Netherlands, and Switzerland). Overall, the evidence base here is somewhat limited given that the overwhelming majority of SEL interventions are evaluated only in their country of origin; however, where there are

published trials of exported interventions, there is evidence that their effects on certain key outcomes (including social-emotional competence, pro-social behavior, and emotional symptoms) can become attenuated (Wigelsworth et al., 2016).

Stage of Evaluation

The stage of evaluation of a given intervention also appears to have a bearing on the impact of SEL. In efficacy trials, the emphasis is on establishing whether an intervention *can* work via tightly controlled experimental studies in which the conditions of implementation are optimized. By contrast, effectiveness trials establish whether an intervention *will* work when implemented in ordinary, real-world contexts (Gottfredson et al., 2015). When Wigelsworth et al. (2016) examined this issue in their recent meta-analysis, their findings were startling. They determined that nearly 70% of published SEL studies reported significant intervention effects under efficacy conditions. However, the impact of SEL was reduced for six out of seven outcomes examined when interventions were assessed under effectiveness conditions – significantly so for pro-social behavior, conduct problems, emotional distress, and academic achievement. For example, the effect size for academic achievement dropped by nearly half, from $d = 0.38$ to $d = 0.22$ (Wigelsworth et al., 2016). The results of this analysis have important implications in terms of managing expectations about the likely impact of SEL interventions when implemented "out in the wild" while also prompting questions about the factors that may influence the successful adoption, implementation, and sustainability of SEL interventions when they are disseminated at scale (Greenberg, 2010). That is, if we know that SEL interventions *can* work, how do we make sure that they *will* work?

Implementation Variability

A further key moderator of SEL outcomes is implementation variability. Implementation is the process by which an intervention is put into practice (Lendrum & Humphrey, 2012) and may be described in terms of the following dimensions (Durlak & DuPre, 2008; Humphrey, Lendrum, et al., 2016):

- *Fidelity* – the extent to which implementers adhere to the intended delivery model
- *Dosage* – how much of the intervention has been delivered and/or received
- *Quality* – how well different components of the intervention are delivered
- *Responsiveness* – the degree to which participants engage with the intervention
- *Reach* – the rate and scope of participations
- *Program differentiation* – the extent to which intervention activities can be distinguished from other, existing practices

- *Monitoring of control/comparison conditions* – in a trial context, that which is taking place in the absence of the intervention
- *Adaptation* – the nature and extent of changes made to the intervention

Many studies have consistently demonstrated that interventions are rarely, if ever, implemented as designed and that, crucially, variability in the aforementioned dimensions is predictive of the achievement of expected outcomes (for a review of the evidence pertaining specifically to SEL interventions, see Durlak, 2016). For example, in the national evaluation of secondary SEAL in England, implementation quality was found to moderate the impact of the intervention on conduct problems, such that significantly greater reductions in students' conduct problems were observed in schools where implementation was judged to be high quality as opposed to moderate or low quality (Wigelsworth, Humphrey, & Lendrum, 2013). Similarly, in the analysis of Zippy's Friends, Clarke et al. (2014) found that higher rates of implementation fidelity were directly related to improvements in students' emotional literacy scores.

Given the strength of the relationship between implementation variability and SEL intervention outcomes, attention has unsurprisingly turned to the question of what influences implementation. In this vein, a range of factors thought to affect implementation have been identified, including preplanning and foundations, the implementation support system, the implementation environment, implementer factors, and intervention characteristics (Domitrovich et al., 2008). Empirical verification of these factors as drivers of implementation variability is still emergent (Durlak, 2015). However, by way of example, Williford, Wolcott, Whittaker, and Locasale-Crouch (2015) found that variability in teacher beliefs about children's behavior predicted both implementation dosage and generalized practice (i.e., outside prescribed sessions) in the Banking Time intervention, which is aimed at improving the quality of teacher-child interactions.

Differential Responsiveness

Just as implementation of SEL interventions can be variable, so too can the responsiveness of different groups of students. Participants in interventions are not simply passive consumers, and we should not expect them to respond in a uniform manner (Bonell, Fletcher, Morton, Lorenc, & Moore, 2012). Thus, while "intention to treat" analysis and reporting of average effects remain a fundamental element of evaluation, an emerging body of research seeks to examine heterogeneity of responses to SEL interventions among population subgroups (Sandell & Kimber, 2013). Much of this work focuses on outcomes for those children and young people who are identified as being "at risk" and/or subject to inequities (Clarke et al., 2015). For example, Holsen, Iversen, and Smith (2009) reported greater gains among children from socioeconomically disadvantaged backgrounds on selected outcomes (e.g., life satisfaction, social competence, school performance) in an evaluation of a

Norwegian adaptation of the Second Step curriculum. Similar differential findings were reported in relation to Zippy's Friends by Holen et al. (2012). In relation to gender, Raimundo et al. (2013) found significantly greater benefits of the Slowly But Steadily Intervention for boys in the domains of self-management, aggression, and social problems. One problem with such analyses, however, is that their approach to differential responsiveness is arguably too simplistic, treating risk status as a binary function determined by a single variable (e.g., male vs female). Work that explores differential responsiveness to SEL intervention using more sophisticated analytical techniques that reflect profile complexity, such as latent class regression (e.g., Sandell & Kimber, 2013), is therefore welcome.

Intervention Characteristics

One of the many advantages of burgeoning SEL research base is that it has allowed those working in the field to begin to identify the common characteristics of effective interventions. For example, Durlak et al.'s (2011) meta-analysis identified several core intervention design features that were associated with improved outcomes. The authors found that "SAFE" interventions – those that use a *s*equenced step-by-step training approach and *a*ctive forms of learning, *f*ocus sufficient time on skill development, and have *e*xplicit learning goals – produced larger effect sizes for a range of outcomes than those that did not make use of these practices. In a similar vein, Clarke et al.'s (2015) recent review found that effective SEL interventions tended to (i) focus on teaching skills, (ii) use competence enhancement and empowering approaches, (iii) use interactive teaching methods (e.g., role-play), (iv) have well-defined goals, and (v) include explicit guidance for implementers through provision of training and/or intervention manuals. These core characteristics are also supported by the findings of Weare and Nind's (2011) "review of reviews" on mental health promotion in schools, including SEL interventions.

However, there is also much to be learned from the intervention characteristics that do not appear to make a difference to outcomes. For example, it has long been assumed that multicomponent SEL interventions would prove to be more effective than those with a single component because of their increased comprehensiveness and broader ecological focus, both of which would presumably support enhanced skill consolidation and generalization. However, Durlak et al. (2011) found that this was not the case – single-component interventions appeared to be equally effective. The authors speculate that this surprising finding may be attributable to the fact that multicomponent interventions were less likely to follow "SAFE" procedures (see above) and more likely to experience implementation problems. Indeed, the earlier contrast between PATHS and SEAL supports this – the latter having limited evidence of impact and with the evidence suggesting that this was at least in part due to poor implementation and questionable intervention theory (Wigelsworth, Humphrey, & Lendrum, 2013). To Durlak et al.'s speculation, I would also add the considerable imbalance evident in the field: there are relatively few studies of *truly*

multicomponent interventions. For example, two systematic reviews conducted on behalf of the National Institute for Health and Care Excellence in England could not find evidence for *any* programs that contained elements involving the curriculum, environment/ethos, *and* parents/community (Adi, Kiloran, Janmohamed, & Stewart-Brown, 2007; Blank et al., 2010).

Developer Involvement in Evaluation

Finally, in assessing the SEL research base, attention must be paid to the level of involvement of the intervention developer in evaluation studies. Most SEL evaluations to date have been led by developers or individuals closely associated with developers (Wigelsworth et al., 2016). Indeed, Greenberg (2010) notes that in the broader field of prevention, few intervention studies have been subjected to independent replication. This is an important issue because in other fields, intervention effects have been shown to be considerably larger when developers are involved in evaluation studies (Eisner, 2009). For example, in a review of psychiatric interventions, studies where developers were directly involved in the research were nearly five times more likely to report positive results (Perlis et al., 2005). Similarly, in a meta-analysis of 300 studies of crime prevention interventions, Petrosino and Soydan (2005) found an average effect size of 0.47 for developer-led studies, contrasted to the effect of exactly zero for independent evaluations. Such effects may be due to bias, higher-quality implementation, or a combination of these two factors (Eisner, 2009). However, Wigelsworth et al.'s (2016) meta-analysis of SEL interventions does not support the "developer effect" found in other areas – developer-led or developer-involved studies did not produce significantly larger effect sizes than independent studies across the range of outcomes studied; this is an important finding which suggests greater confidence can be placed in the veracity of the body of research as a whole.

Conclusion

In this chapter I have provided an overview of contemporary theory and research relating to universal, school-based SEL interventions, with a particular emphasis on those originating in Europe. Such interventions offer a direct application of EI theory and research and developmental psychological models of social-emotional competence within the broad principles of implementation and prevention science. Analysis of their form, function, and characteristics can provide valuable insights into the convergences and divergences evident in the myriad interventions available. The evidence base for SEL is substantial, with three recent meta-analyses and numerous reviews highlighting meaningful effects on a range of outcomes. However, the magnitude of impact of SEL interventions appears to vary as a function of

cultural transferability, stage of evaluation, implementation variability, differential responsiveness, and specific intervention characteristics. Unlike some other fields, the involvement of intervention developers in evaluation studies does not appear to significantly influence their outcomes, meaning that greater confidence can be placed in the veracity of the body of research as a whole.

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