



Literature Review

Social-Emotional Learning and Preventing Youth Suicide

Content Warning

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Introduction

Youth suicide is on the rise across the country. It's one of the top two causes of premature death of youth between ages 10 and 19 (Curtin & Heron, 2019). Approximately one in 12 high schoolers have attempted suicide; middle schoolers have a slightly lower rate (Mazza, 2006). Recently, state legislatures have responded with various policies. Arizona, Louisiana, and

Illinois passed legislation in 2019 to promote education and programming on suicide prevention. California, Iowa, and New York among others have also tried to bolster suicide prevention through legislation. At the same time, schools and school systems are incorporating social-emotional learning (SEL) in their efforts to prevent youth suicide.

Anecdotally, Committee for Children has seen cases where SEL appears to contribute to decreases in youth suicide. Tooele County Public Schools in Utah, for example, implemented an evidence-based SEL curriculum throughout all elementary and junior high schools in response to a tragic series of suicides. Two years later, it recorded decreasing rates of youth suicidality (and substance use), even while other counties in the state continued to experience increases (Second Step, n.d.).

To bring down the rates of youth suicide, school-based interventions typically focus on risk identification and suicide awareness. But evidence is mixed as to whether those types of interventions reduce rates and risks of suicidal thoughts and behavior. So, we're increasingly seeing schools like those in Tooele County turning to upstream and primary prevention strategies to foster skills and strengths that can protect against suicide risk before a crisis emerges. These strategies work toward creating positive learning environments for all students while at the same time connecting services to those students who need extra support (Flynn, Joyce, Weihrauch, & Corcoran, 2018). Universal programs are an effective avenue for cultivating skills that support primary prevention among entire student bodies (Flynn et al., 2018). This review presents the latest evidence-based efforts at youth suicide prevention in school-based settings, evaluating to what extent SEL supports and furthers those efforts.

SEL curricula work as an effective universal Tier I (all-student) intervention. They promote skills related to protective factors that mitigate the risk of students developing suicidal thoughts and behaviors. Evidence-based SEL programs foster healthy life skills, well-being, and a positive school environment. They also have positive long-term outcomes across students' diverse needs and backgrounds (Simmons, Brackett, & Adler, 2018; Taylor, Oberle, Durlak, & Weissberg, 2017). The Collaborative for Academic, Social, and Emotional Learning (CASEL) identifies the five core social-emotional competencies as self-awareness, self-management, responsible decision-making, social awareness, and relationship skills (CASEL, n.d.).

Evidence-based SEL programs foster healthy life skills, well-being, and a positive school environment.

Hopelessness, anxiety, substance use, and child sexual abuse are known risk factors for suicidal thoughts and behaviors. Social-emotional competencies can address one or more of these risk factors through decreasing such thoughts and behavior. In this review, we map the five core social-emotional competencies to these identified risk factors for suicidality.

However, two caveats are important to note. Suicidal thoughts and behaviors are complex concepts, and these risk factors are only some of the aspects that might interact and contribute to increased risk. Beyond the existing research, more empirical evidence is needed to directly assess SEL as a primary method of preventing youth suicide. Further, SEL programs shouldn't stand alone as the sole form of suicide prevention strategy in a school.

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Rather, they should be integrated as part of a comprehensive continuum of support for students, because students will have a range of needs and experiences on the spectrum of suicidal thoughts and behaviors.

This review first describes the five school-based primary pre-vention strategies that are dominant in addressing youth suicide and that have been evaluated by rigorous research studies. We include descriptions of programs that exemplify these five strategies. The next section discusses the connection between four major risk factors associated with youth suicide and the five core social-emotional competencies, in the context of primary prevention. Finally, we identify group trends that policy and practice must take into consideration.

Current School-Based Suicide Prevention Strategies

In this section, we identify five evaluated school-based primary prevention strategies that address youth suicide: behavioral screenings, education and awareness programs, gatekeeper training, skills training, and whole school approaches.

We've limited this review to research-evaluated school-based primary prevention strategies that address youth suicide. We've excluded broad-based suicide awareness campaigns, responsible media reporting, and limiting access to lethal means (Bohanna & Wang, 2012; Jenner, Jenner, Matthews-Sterling, Butts, & Williams, 2010; Lubin et al., 2010). We've also excluded randomized controlled trials on those school-based prevention programs that focus on knowledge of and attitudes toward suicide (Wasserman et al., 2015), because it's unclear whether specific attitudes toward suicide translate into a reduction in youth suicide.

Behavioral Screenings

Behavioral screening programs identify at-risk students so they can receive the supports and treatments they need. One evaluated program is TeenScreen, which includes a self-report questionnaire and a follow-up clinical interview for respondents who've been identified as at risk (Scott et al., 2009; Shaffer et al., 2004). TeenScreen then connects the at-risk students with mental health services.



TeenScreen has several limitations. Self-reporting can yield false positives and negatives, restricting how far the screenings can be generalized. The program also doesn't clearly demonstrate an impact on reducing the rate of youth suicide, particularly because success for these youth depends on the effectiveness of the referred mental health services and how engaged the students are (Lake & Gould, 2011). Because suicidal feelings can fluctuate over time, the timing of the screenings can affect who receives additional support from the program (Katz et al., 2013).

Education and Awareness Curricula

School-based suicide prevention programs that make use of education or awareness curricula teach students to recognize signs of suicide within themselves and others (Katz et al., 2013). The Signs of Suicide (SOS) program is an empirically supported awareness curriculum with a screening component for adolescent depression. SOS aims to increase knowledge and healthy attitudes about depression, encourage help-seeking behaviors, reduce stigma, engage parents and educators, and encourage school and community partnerships to support student mental health (Aseltine & DeMartino, 2004; Aseltine, James, Schilling, & Glanvosky, 2007; Suicide Prevention Resource Center, 2016). Two high-quality randomized controlled trials on the program's impact on suicide attempts revealed that SOS was effective in decreasing suicide attempts, in growing suicide knowledge, and in improving attitudes about suicide (Aseltine & DeMartino, 2004; Aseltine et al., 2007). However, statistically significant results in reducing suicidal ideations were not demonstrated (Aseltine & DeMartino, 2004).

There are major limitations with this method. Results are mixed on whether such curricula can change knowledge and attitudes about suicide—and whether suicide decreases when knowledge and attitudes do change (Gould, Greenberg, Velting, & Shaffer, 2003; Katz et al., 2013).

Gatekeeper Training

A gatekeeper can be anyone in a position to recognize the warning signs that someone might be contemplating suicide. Gatekeeper training teaches adults and students to recognize suicide warning signs, identify at-risk students, and respond effectively (Lake & Gould, 2011; Katz et al., 2013). For example, Question, Persuade, Refer (QPR) is a universal gatekeeper program that trains students and school staff to recognize suicide warning signs. The program also trains staff on the QPR intervention method, trains counselors to accurately assess at-risk students, and organizes referrals and relationships with professional assessment and treatment (Katz et al., 2013; Quinnett, 2007). A

randomized controlled trial on QPR showed a positive impact on suicide knowledge, skills, and attitudes (Wyman et al., 2008).

QPR is intended for all adults, but it's effectively a selective approach because gatekeepers engage only with at-risk students, and staff communication with students about suicide increased by only a small amount (Wasserman et al., 2015; Lake & Gould, 2011). As with behavioral screenings, effective follow-up by a mental health service is critical for a gatekeeper program, yet QPR didn't show an effect on mental health service use (Wyman et al., 2008). Indeed, the QPR Institute recommends that gatekeeper training not be used as a stand-alone intervention in suicide prevention (Lake & Gould, 2011).

Skills Training

Skills training develops students' problem-solving, coping, cognitive, communication, and social skills. These skills might or might not focus explicitly on suicide, depending on program design and implementation plan. Such training can, however, promote problem-solving or self-regulation with an emphasis on addressing the risk factors for suicidal behavior (LaFromboise & Hussain, 2015).

Skills training can promote problem-solving or self-regulation with an emphasis on addressing the risk factors for suicidal behavior.

The Zuni/American Indian Life Skills Development Curriculum (AILS) is a culturally responsive and universal course that builds students' life skills. It was developed in response to Zuni Pueblo's rising youth suicide rate (LaFromboise & Hussain, 2015; Katz et al., 2013). This curriculum includes themes of building self-esteem, identifying emotions and stress, increasing communication and problem-solving skills, and recognizing and eliminating self-destructive behavior. It also offers information on suicide, suicide intervention training, and setting personal and community goals (Suicide Prevention Resource Center, 2007). A controlled evaluation of the program found reduced suicidal ideation and hopelessness, but not reductions in depression. Its role-play component was associated with improved problem-solving skills and suicide intervention skills (LaFromboise & Howard-Pitney, 1995).

DBT STEPS-A is an SEL program founded on dialectical behavior therapy (DBT) (Miller, Rathus, & Linehan, 2007). This program, delivered consistently over the course of the school year, targets

teens in the school environment to support decision-making and coping skills that can be useful in stressful situations (Mazza, Dexter-Mazza, Miller, Rathus, & Murphy, 2016). DBT STEPS-A includes skills for goal setting, dialectical thinking, mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness (Mazza et al., 2016). In one nonrandomized controlled study, the group that received DBT STEPS-A showed a significant reduction in depression, anxiety, and social stress in comparison to the control (Flynn et al., 2018).

Skills training requires more time commitment than other prevention strategies, which can deter schools from pursuing it as a strategy.

The Good Behavior Game (GBG) (Barrish, Saunders, & Wolf, 1969) is another universal, skills-training approach. GBG divides elementary school classrooms into teams that get points for good behavior redeemable for a reward. This intervention targets social values, norms, and behavior management (Wilcox et al., 2008). A long-term study in 2008 found that participants were significantly less likely to have suicidal ideations fifteen years after participating, but there wasn't a significant impact on suicide attempts (Wilcox et al., 2008).

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Whole School Approaches

A whole school approach attempts to foster a school in which all adults and students are knowledgeable about suicide and prevention resources (Lake & Gould, 2011). In Wasserman et al.'s (2015) randomized controlled trial conducted across several European countries, students in schools with universal, school-based interventions showed a significant decrease in suicidal ideation and attempts in comparison to the control groups. Sources of Strength (LoMurray, 2005) trains peer leaders on suicide prevention to transform school climates. When this program was studied in a randomized controlled trial, significant enhancements in peer leaders' expectations were seen for adult support, rejection of silence, and the number of adults they trusted with these conversations (Wyman et al., 2010).

Another universal intervention, the Youth Aware of Mental Health Program (YAM), has the goal of increasing awareness of protective and risk factors for suicide. It includes information on depression

and anxiety. YAM combines role-plays with workshops, a student booklet, and two interactive lectures about mental health and suicide's associated risk and protective factors (Wasserman et al., 2015). The topics covered in YAM are peer support, stress, crisis response, depression, suicide, and help-seeking based on the foundation of the students' reflection and discussion (Wasserman et al., 2018). A cluster-randomized controlled trial of YAM noted more significant decreases in suicidal ideation and attempts as compared to the control group (Wasserman et al., 2015).

Summary of Reported Outcomes

Looking at specific examples of these five types of intervention, we can summarize the key outcomes associated with each. In Table 1, check marks indicate significant outcomes that were studied in the research we reviewed.

Note: Lack of a check mark indicates one of two situations: either the reviewed study didn't make a significant impact or it wasn't designed to evaluate the outcome. We don't distinguish between the two options in Table 1. More research might be needed to determine whether a program and an outcome (without a check mark) are in fact associated.

SEL is embedded already in some suicide prevention programs. Skills training programs appear to be the type of suicide prevention programming that most often incorporates SEL explicitly (Table 2). These programs are often implemented universally. Their inclusion of SEL might help explain their efficacy; more research would be needed to substantiate that claim.

A Few Further Observations

Youth suicide prevention programs are best integrated with school culture and mandates and should be multifaceted to address diverse student needs (Mazza, 2006); they shouldn't be applied separately. These strategies can incorporate help-seeking and suicide awareness efforts, though those efforts aren't upstream interventions and don't address behavioral or cognitive challenges (Mazza, 2006). Programs should be selected with knowledge of their intent and limitations. For example, prevention programs that target depression or anxiety can miss the wide spectrum of other emotions that children experience as precursors to suicide (Flynn et al., 2018). In general, suicide prevention programs can be improved by addressing risk factors early, and by providing tools for coping with challenges through a consistent and comprehensive strategy.

Table 1. Suicide Prevention Programs and Research-Evaluated Outcomes

Program Type	Program	Decreased Anxiety	Decreased Hopelessness	Decreased Suicidal Ideation	Decreased Suicidal Attempt
Behavioral Screening	TeenScreen				
Education/Awareness Training	SOS				●
Gatekeeper Training	QPR				
Skills Training	Zuni/AALS		●	●	
Skills Training	DBT STEPS-A	●			
Skills Training	GBG			●	
Whole School	Sources of Strength				
Whole School	YAM			●	●

Table 2. SEL in Reviewed Programs

Program Type	Program	Self-Awareness	Self-Management	Responsible Decision Making	Social Awareness	Relationship Skills
Behavioral Screening	TeenScreen					
Gatekeeper Training	QPR					
Education/Awareness Training	SOS	●			●	
Skills Training	Zuni/ALS	●	●	●	●	●
Skills Training	DBT STEPS-A	●	●	●	●	●
Skills Training	GBG	●	●	●	●	●
Whole School	Sources of Strength				●	●
Whole School	YAM	●	●	●	●	●

Connections Between SEL and Suicide Risk Factors

This section focuses on risk factors for youth suicide and examines how components of SEL can mitigate those identified risks. We'll provide an overview of the five core social-emotional competencies, with evidence we found to be particularly salient in addressing suicidal thoughts and behaviors, and then discuss the identified risks and the research that connects SEL components to upstream suicide prevention.

SEL can play a significant role in youth suicide prevention strategy. It can mitigate or protect against at least four risk factors associated with suicidal thoughts and behavior: hopelessness, anxiety, substance use, and child sexual abuse. The five social-emotional competencies can map to each of these risk factors (Table 3), offering considerable mitigation.

Table 3. Suicide Risk Factors and Mitigating Social-Emotional Competencies

Risk Factor	Self-Awareness	Self-Management	Responsible Decision Making	Social Awareness	Relationship Skills
Hopelessness	●	●			●
Anxiety	●	●	●	●	●
Substance Use		●	●	●	●
Child Sexual Abuse	●	●		●	●

A Few Preliminary Caveats

In this discussion of suicide risk and prevention, we acknowledge three limitations. First, many studies on suicide risk factors focus on adults and college student populations. Suicidal behavior might manifest differently or have different implications for youth. Second, some studies evaluated risk in clinical and non-clinical cases. This review considers SEL as a school-based primary prevention; higher levels of care might require different interventions for prevention. Third, identified risk factors are often inferences and can exist as interactions between multiple factors rather than as the sole cause for suicidal behavior (Lipsicas & Apter, 2011; Dour, Cha, & Nock, 2011). Despite these limitations, early primary SEL intervention is still promising as one way of protecting against suicide risk factors.

Social-Emotional Competencies and Suicide Prevention

Self-Awareness

Self-awareness consists of accurate self-perception, self-confidence, self-efficacy, and emotion identification (CASEL, n.d.). These factors lay the foundation for other protective factors, reducing risk for hopelessness and anxiety while promoting strengths and resiliency. Self-esteem is closely related to self-perception, accurate or not, and the value placed on oneself (Carnevale, 2016). Strengthening self-esteem can protect against suicidal ideation (Chioqueta & Stiles, 2007; Overholser, Adams, Lehnert, & Brinkman, 1995), and people can strengthen self-esteem when they challenge distortions of self-perception (Cohen, 1959).

Self-awareness can play a foundational role in suicide prevention. High self-esteem has implications for coping with life's stressors; it's part of the foundation of stress management skills through the self-management competency. Self-esteem influences the cognitive appraisal process in determining whether individuals believe they can employ a coping strategy in a stressful situation (Yoo, 2019). Thus, self-esteem can affect the experience of and response to hopelessness as well as anxiety. Self-esteem, like depression, is also affected by social connectedness. Higher engagement in activities and social connections across different contexts can predict higher self-esteem and lower depression (Pedersen et al, 2005). Self-management and emotion regulation also have a role to play, and central to that skill is emotion identification through the self-awareness competency (Pisani et al., 2012).

Self-Management

The self-management social-emotional competency is the ability to effectively regulate one's emotions, cognitions, and behaviors in a variety of settings (CASEL, n.d.). Self-management includes skills for stress management, goal setting, impulse control, self-motivation, and organizational skills (CASEL, n.d.).

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This competency can be used in addressing hopelessness, anxiety, substance use, and child sexual abuse, especially through skills for emotion regulation. Emotion regulation regularly appears in the research as a protective ability for risk of suicide. Emotion regulation includes the abilities to clearly identify emotions (connected to self-awareness), accept them, and then respond to and use that information to meet a goal such as help-seeking or self-soothing in times of emotional distress (Pisani et al., 2012).

The experience of emotional distress coupled with depressive symptoms precedes suicidal behavior (Pisani et al., 2012). For adolescents, lack of emotion-regulation skills plays an influential role in risk for suicide, especially when coupled with a history of nonsuicidal self-injury or with lack of access to a trusted adult (Brausch & Woods, 2019; Pisani et al., 2012).

Related to emotion regulation, having emotional self-confidence means that a person believes they can cope with and change an internal emotional stressor; high emotional self-confidence can protect against suicidal ideation (Deely & Love, 2013). The cultivation of emotion regulation is key to fostering positive coping strategies and protective factors before a crisis can take place.

Responsible Decision Making

Just as self-management skills promote positive strategies for navigating strong emotions and stressful situations, so do responsible decision-making skills come into play, particularly through the ability to problem-solve in the context of primary prevention for suicide. Responsible decision-making skills pertain to the ability to analyze situations, identify problems, and solve problems while considering one's own well-being and that of others (CASEL, n.d.).

Social Awareness and Relationship Skills

Another factor that appears to decrease risk for suicide and suicidal ideation is a person's perception of social support (Yoo, 2019). Poor interpersonal problem-solving skills also show an apparent link with suicidal behavior (Pollock & Williams, 2004). Thus, both social awareness and relationship skills competencies are vital to developing meaningful relationships and can protect against the development of a crisis. Relationship skills are the abilities to communicate effectively, build and maintain healthy relationships, navigate conflict, work well with others, and seek and offer help when it is needed (CASEL, n.d.). Social awareness encompasses understanding of social and ethical norms, recognizing supports, perspective-taking, empathy, respect, and appreciation of diversity and respect for others (CASEL, n.d.).

Beyond individual connections, social networks also have a crucial role in fostering protective factors for students. Social networks play a part in norm setting. They influence behavior. And they set a context for support that peers might offer (Wyman et al., 2019). This speaks to the importance of fostering a positive school climate in consideration of primary prevention. At the school level, high schools with lower rates of suicidal attempts and ideation had a higher concentration of trusted student-adult relationships and cohesive and integrated friendship networks across the student body (Wyman et al., 2019). Risk of suicidal ideation and attempts does increase for high schoolers in the presence of lower peer network integration, meaning low peer connection, more exposure to suicidal friends, and low connection to a trusted adult (Wyman et al., 2019).

Identified Risk Factors and Related Social-Emotional Competencies

Hopelessness

One of the major risk factors for suicide is hopelessness (Mazza, 2006). Hopelessness consistently correlates with suicidal ideation, intent, and completion (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck, Steer, Kovacs, & Garrison, 1985; Wetzel, 1976), as well as with poor problem-solving skills, loneliness, and irrational beliefs (Bonner & Rich, 1991; Cannon et al., 1999). In young people, hopelessness is linked to depression, risky behaviors, suicide attempts, and suicide (LaFromboise & Hussain, 2015). The correlation between hopelessness and depression is a particularly critical link to address because up to two-thirds



of individuals who die by suicide were previously diagnosed with depression (Hawton, Casanas, Cornabella, Haw, & Sunders, 2013).

Self-awareness, self-management, and relationship skills are social-emotional competencies that can be used in addressing hopelessness and risk for suicidal behavior.

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One promising aspect of self-awareness that can address hopelessness is self-efficacy. Self-efficacy is the belief in one's agency and effectiveness to act in a way that produces a desired goal or outcome (Bandura, 1977). Linehan et al. (1983) found that high levels of survival and coping beliefs—items on an inventory that encompasses both self-efficacy and hopelessness—correlate with little to no suicidal ideation. These beliefs also correlate negatively with self-reports of likelihood of future suicide. Young people's experiences bear out these results: children who report higher levels of self-efficacy have lower levels of depressive symptoms (Steca et al., 2013). In the context of school, positive beliefs in self-efficacy enhance academic achievement and well-being and can counteract violent conduct (Caprara, Regalia, & Bandura, 2002).

Effective goal setting, a part of self-management, might be another part of addressing hopelessness in suicide prevention. The level of hopelessness people experience relates to the degree to which they believe their goals can be realized. High levels of hopelessness have implications for suicidal behavior (LaFromboise & Hussain, 2015; Vincent, Boddana, & MacLeod, 2004; Hadley & MacLeod, 2010). Goal setting can help foster achievable outcomes, because one's expectations or capabilities do influence suicidal behaviors (Linehan et al., 1983). In one study, individuals with suicidal behavior rated their goals as less likely to be achieved in comparison to the control group that hadn't displayed suicidal behavior (Vincent, Boddana & MacLeod, 2004). For students to be able to change their thoughts and strengthen goal-setting skills, a sense of self-efficacy is critical (Locke & Latham, 2002). Effective goal-setting skills, with bolstered self-efficacy, can promote positive expectations and consequently mitigate hopelessness as a considered risk factor to suicide.

As discussed earlier, emotion regulation, another self-management skill, is important in suicide prevention and strengths promotion. The inclination to experience anxiety, depression, and challenges with responding to stress correlates positively with hopelessness and suicidal ideation (Widiger & Oltmanns, 2017; Chioqueta & Stiles, 2005). Researchers hypothesize that this is due in part to difficulty managing emotions (Chioqueta & Stiles, 2005). Further, hopelessness and rumination influence the association between emotion dysregulation and suicidal ideation (Miranda, Tsypes, Gallagher, & Rajappa, 2013), which suggests that the ability to navigate stressful situations and strong emotions is key in primary prevention.

Building and maintaining relationships also plays a role in addressing hopelessness. Loneliness correlates with hopelessness (Bonner & Rich, 1991) and is a risk factor for suicide. But loneliness can be addressed through relationship skills. The cultivation of supportive relationships between adolescents and adult family members is associated with decreased suicidal attempts, thoughts, and behavior (Pisani et al., 2012). Adolescents also benefit from peer social bonding because that can influence subjective well-being and suicidal ideation (Yoo, 2019).

Children who report higher levels of self-efficacy have lower levels of depressive symptoms.

Anxiety

Anxiety is another risk factor that correlates with hopelessness and increased risk for suicide (LaFromboise & Hussain, 2015; Davidson et al., 2011; Gould et al., 1998). Youth can experience anxiety for a variety of reasons, from academic pressures to social situations and interpersonal conflicts (LaFromboise & Hussain, 2015). Anxiety involves a heightened focus on others' negative affect or disapproval (Pan et al., 2013). It's characterized by excessive fear or worry with a level of distress that impairs the social, work, or health facets of an individual's life (Hofmann, 2016). One study found that adolescents with anxiety and subthreshold anxiety (that is, students not diagnosed with anxiety but significantly functionally impaired by it) were nearly twice as likely to have suicidal ideation than their nonanxious peers (Balazs et al., 2013).

During adolescence, the link between anxiety and suicidal ideation may be connected to an emphasis on belongingness and peer approval (LaFromboise & Hussain, 2015). This link indicates that prevention efforts must consider social anxiety. Social

anxiety, an excessive fear of peers' disapproval, is associated with interpersonal chronic stress. It increases risk for suicidal ideation when it co-occurs with major depressive disorder (Davidson et al., 2011).

Self-management, self-awareness, responsible decision making, social awareness, and relationship skills competencies all have shown to be promising in mitigating anxiety and social anxiety for youth through our review of research.

Anxiety is interrelated with stress (Bystrisky & Kronemyer, 2014). Stress is an overwhelming sensation in reaction to challenging daily events that can impact children in their early years and throughout childhood (Bothe, Grignon, & Olness, 2014). The results of stress can be found in anxiety, depression, and challenges to emotion regulation to name a few (Bothe, Grignon, & Olness, 2014).

Stress management, a component of self-management, is a part of creating a foundation that protects against suicide, particularly as a strategy that can address anxiety.

Coping resources, the cognitive appraisal of a stressful situation, and coping strategies are aspects of stress management (Bothe, Grignon, & Olness, 2014; Yoo, 2019). One study demonstrated that stress management as a school-based intervention, through ten-minute sessions over four months, reduced school-aged children's reports of anxiety symptoms—with effects that continued into the next school year (Bothe, Grignon, Olness, 2014). Healthy stress management skills are important to cultivate early, because coping strategies that develop in adolescence

relate to one's mental health in adulthood (Shin & Khu, 2001). Although depressive symptoms and hopelessness might be better predictors of suicide risk in the moment, the ability to use problem-solving skills during stressful events can be a primary way to mitigate future risk of suicidal behaviors (Grover et al., 2009).

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And navigating stress has implications for problem solving—an aspect of the responsible decision-making competency—as it relates to risk of suicide. Adolescents with suicidal behavior might have problem-solving skills, yet have difficulty applying them in stressful situations (Grover et al., 2009). Adolescents with limited problem-solving abilities are at greater risk of suicidal behavior during times of stress (Grover et al., 2009). For adolescents and young adults with poor problem-solving skills, poor emotion regulation was strongly associated with suicide attempts (Dour, Cha, & Nock, 2011). This is another situation where emotion regulation has influence: emotion regulation starts with the ability to identify emotions through self-awareness (Pisani et al., 2012).

Bolstering interpersonal skills via the social awareness and relationship skills competencies might be particularly effective



For adolescents and young adults with poor problem-solving skills, poor emotion regulation was strongly associated with suicide attempts.

in lowering social anxiety for young people. Social skills have a negative relationship to social anxiety (Caballo, 2014). Conversely, poor interpersonal skills correspond to poor relationship engagement, which hinders the ability to develop meaningful relationships. The lack of meaningful relationships thwarts a sense of belonging and might lead to an increased risk for suicide (Davidson et al., 2011; Davila & Beck, 2002). Strong social relationships allow for support in stressful situations and expression of emotions, and they can help form adolescents' social-emotional development (Yoo, 2019).

Substance Use

Substance use and dependence increase the risk of suicide attempts in young people, and may affect impulsivity and increase challenges with emotion regulation. Among youth, substance abuse is one factor that differentiates those individuals that attempt suicide from those with suicidal ideation (Gould et al., 1998). The relationship between drug use and suicide among teens in the United States varies with the type of illicit drug. Teen heroin use has the strongest relationship with suicidal ideation, planning, and attempts (Wong, Zhou, Goebert, & Hishenuma, 2013).

Substance use can also enhance impulsivity and challenges to regulating emotions that are already present. Acting together, these two forces can increase a young person's propensity for suicidal behavior (LaFromboise & Hussain, 2015). Though impulsivity is a factor in some cases, on its own it isn't necessarily predictive of adolescent suicide (but this has been only minimally studied) (Braquehais, Oquendo, Baca-Carcia, & Sher, 2010; Sarkisian, Van Hulle, & Goldsmith, 2018). Nonetheless, impulsivity might bear on suicide risk when associated with substance use because, when coupled with challenges to emotion regulation, it can predict suicidal ideation (Wojnar et al., 2009). Impulsivity is also significantly associated with alcohol misuse, a risk factor for suicide as mentioned (Wojnar et al., 2009).

Skills under the self-management, responsible decision making, social awareness, and relationship skills competencies have the potential to reduce suicide risk upstream by preventing substance abuse. The risk of substance abuse decreases when youth can regulate emotions, set goals, problem-solve in stressful situations, develop and maintain healthy relationships, and feel connected to school (Bradley, Myrick, McElroy, 1998;

Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999; Committee for Children, 2008).

A complete review of substance use prevention is outside the scope of this paper, but the topic does overlap with suicide protective factors such as regulating emotions, goal setting, developing healthy coping skills, building healthy relationships, and positive norm setting (Bradley, Myrick, McElroy, 1998; Wills, 1986; D'Amico et al., 2001; Wyman et al., 2019). All of these are components of SEL and could potentially function in this capacity, although more research would be needed to substantiate that claim.

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Child Sexual Abuse

Child sexual abuse is widespread, affecting approximately one in four girls and one in 20 boys in the United States (Finkelhor, Shattuck, Turner, & Hamby, 2014). Individuals who've experienced sexual abuse have higher rates of suicide completion and attempts compared to those who have not (Mazza, 2006; Pérez-Fuentes et al., 2012). These findings may be related to neural changes influenced by trauma. Stressful or traumatic events early in life affect the brain and can alter the emotion processing and regulation systems in a way that may increase risk for depression (Cisler et al., 2013). Often, the aftereffects of sexual abuse can include depression, self-harming behaviors, substance abuse, lowered self-esteem, and anxiety, to name only a few (Pharris, Resnick & Blum, 1997). These are in themselves risk factors for suicide.

SEL is a foundational piece of comprehensive child sexual abuse prevention. SEL can cultivate a young person's ability to recognize unsafe behaviors, increase assertiveness skills, report, and ask for help in both difficult and dangerous situations (Committee for Children, 2014). It strengthens protective factors against vulnerability to harm, such as enhanced confidence and self-esteem (Gibson & Leitenberg, 2000). SEL also provides a solid avenue to upstream prevention by teaching young people skills such as empathy, problem solving, and building healthy relationships, all of which help prevent people from engaging in sexually harmful behaviors (Basile et al., 2016).

Suicidal behavior resulting from child sexual abuse can be mitigated by the self-awareness, self-management, social awareness, and relationship skills competencies. For suicidal behavior associated with child sexual abuse, a critical component to protection may be an individual's feeling of self-esteem, which could be bolstered by the self-awareness competency (Afifi & MacMillan, 2011). The presence of high emotion-regulation skills also significantly influences the relationship between child sexual abuse and suicidal ideation and attempts. Suicidal ideation and suicide attempt were absent for adolescent survivors of child sexual abuse with high emotion-regulation skills, when compared to survivors with low emotion-regulation skills (Cha & Nock, 2009). Prevention of suicidal behavior associated with child sexual abuse also includes social and relational components such as identification with a group, access to a caring adult, family support, the child's perception of parental or adult caring (including that of school leaders), the child's positive feelings about school, and recognition of supports (Pharris, Resnick, & Blum, 1997).

Trends Among Subgroups

Suicidal behavior is higher in some adolescent subgroups than in others. Policy and practice should be inclusive and draw on strengths of these groups in order to address the need for more effective primary prevention.

- Girls tend to have more suicidal ideation and more frequent suicide attempts than boys (Mazza, 2006; Centers for Disease Control, 2017).
- Black and Latina girls have among the highest prevalence of reported suicidal thoughts and attempts (Centers for Disease Control, 2017).
- Boys complete suicides more frequently than do girls, representing 77.9 percent of all youth suicides (Centers for Disease Control, 2015).
- Native American youth are disproportionately at risk of suicide: 35 percent of suicides among Native Americans were among young people (ages 10–24) compared just to 11 percent among the white population (Mazza, 2006; Leavitt et al., 2018).
- Gay, lesbian, and bisexual teens are at significantly greater risk for attempting suicide compared to their heterosexual peers (Centers for Disease Control, 2018).
- Rural communities and underserved communities that have less access to available services have higher rates of youth suicide (Hirsh, 2006).

Although researchers recommend Tier I primary prevention, an increase in supports and services, especially to students with greater associated risk, might yield more positive outcomes.

Conclusion

Social-emotional learning can combat youth suicide; research shows this. SEL is already consistently included in some youth suicide prevention programs. Beyond those programs, SEL mitigates youth suicide risk factors in its own right. Increasing the focus on SEL in young people, as one part of a comprehensive youth suicide prevention strategy, holds promise. To better understand its role in this space, more research is needed—but practitioners would do well to pay close attention to locales (such as Tooele, Utah or Jeffco County, Colorado) that are currently implementing youth suicide prevention strategies with SEL as an explicit focus. And policymakers should support youth suicide prevention efforts, offering funding for comprehensive prevention that includes SEL with additional funding to evaluate its efficacy.

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