Emotion regulation, coping and decision making: Three linked skills for preventing externalizing problems in adolescence

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Portions of this research were funded by a grant from the Australian Institute of Criminology through the Criminology Research Grants Program to Kathryn Modecki, Bonnie Barber, and Wayne Osgood. The views expressed are the responsibility of the first author and are not necessarily those of the AIC. Portions of this research were also funded by an Australian Research Council Discovery Award (DP130101868) to the second author.

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Abstract

Research on executive control during the teenage years points to shortfalls in emotion regulation, coping, and decision-making as three linked capabilities associated with youth's externalizing behavior problems. Evidence gleaned from a detailed review of the literature makes clear that improvement of *all three* capabilities is critical to helping young people better navigate challenges and prevent or reduce externalizing and related problems. Moreover, interventions can successfully improve these three capabilities and have been found to produce behavioral improvements with real-world significance. Examples of how successful interventions remediate more than one of these capabilities are provided and future directions in research and practice are proposed to move the field towards the development of more comprehensive programs for adolescents to foster their integration.
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In the U.S. and around the world, a significant proportion of adolescents engage in externalizing behaviors, including aggression, substance use, and delinquency (Bongers, Koot, van der Ende, & Verhulst, 2004). Not only are these behaviors troubling at the time, they also may ensnare youth in a maladaptive life trajectory of ever-escalating problems and life failures. It is not surprising that a wide range of programs have been developed to prevent externalizing behaviors before they emerge or hasten their desistance during adolescence by teaching young people skills to help them successfully navigate away from antisocial engagement and manage daily challenges (Wilson & Lipsey, 2007). What has been articulated less clearly is whether there are select “core skills” which are linked together and underlie adolescent externalizing behaviors that should be targeted directly in these prevention and intervention programs.

Here, we propose three core skills that serve complementary functions, so that programs that work within the nexus of all three should significantly prevent or reduce youths’ externalizing behaviors and enhance their chances for success. These skills are: emotional regulation, coping, and decision-making. These skills vary among children and adolescents and all have been found to improve up until at least the early to mid-20s. Importantly, they are also skills that can be learned and improved during childhood or adolescence through coaching, instruction, and practice (Guerra, Modecki, & Cunningham, 2014; Zimmer-Gembeck & Skinner, 2011).

We define emotion regulation as an organizing skill that scaffolds other psychological processes in order to facilitate biological or social adjustment or the attainment of personal goals (Eisenberg & Spinrad, 2004). Stated otherwise, emotion regulation is, "the process by which
adolescents’ influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275).

We define coping as adolescents’ efforts to regulate their emotion, cognitions, physiology, and behavior, as well as their situations and contexts, in reaction to stressful events or challenging circumstances (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). This definition highlights the inherent links between emotion regulation and coping because adolescents must regulate their emotions when facing stress or they will be limited in their abilities to implement plans or strategies to cope. When emotional responses such as anger or sadness are peaking and unregulated, cognitive coping strategies such as cognitive reappraisal and problem solving are needed but difficult for many adolescents to access (Compas et al., 2001).

Effective decision-making is defined as the capacity to anticipate real-world scenarios, pay attention to relevant cues, consider perspectives, and make effective choices across varied situations and contexts, including stressful or challenging circumstances (Guerra et al., 2014). It also draws on the capacity for self-regulation (Eisenberg & Spinrad, 2004; Zhou, Chen, & Main, 2012). As a result, competent decision-making is underpinned by adaptive, flexible, and coherent emotion regulation and coping skills that are matched to environmental demands. Although young people make a range of decisions, some good and others poor, here we use the general term “decision-making” to refer to decision processes that are optimum given their circumstances, illustrate competence, and are context-appropriate.

These three skills—emotion regulation, coping, and decision-making—fall within the more general concept of regulation of action (Skinner & Zimmer-Gembeck, 2007). They each contribute to successful management of daily life challenges and the avoidance of excessive
anger and externalizing behavior. They also overlap and represent aspects of a more general control process often described within frameworks of Executive Function (EF) or as Executive Control (EC) (Zhou et al., 2012). EC is an “umbrella” function governed by the prefrontal cortex and its striatal connections. These functions are associated with attention, working memory, self-organization, mental flexibility, planning, and control of cognition and emotion (Luciana, 2013).

**Linkages between Emotion Regulation, Coping, and Decision-Making Skills**

Although much of the work on emotion regulation, coping, or decision-making occurs independent from the other two areas, there is considerable overlap between them. For example, all three are implicated in theories of adolescent brain development and psychopathology. Neurodevelopmental models of adolescent problem behaviors point to executive control deficits during adolescence (Luciana, 2013). These deficits are undergirded by a not yet fully functional cognitive control network, regulated by the prefrontal cortex (PFC) and its underpinning neural systems. A range of processing demands are made on the PFC as youth navigate social relationships, wrestle with strong internal arousal, and contend with heavy motivational approach drives (see Luciana, 2013). Youth who engage in externalizing behaviors such as delinquency, aggression, and heavy risk-taking impose even greater processing demands on their cognitive control system because they tend to be dysregulated, and their high emotional reactivity can act as an ongoing source of internal stress. As a result, their EC system must work harder to cope with these inputs and create stasis. On top of this, youth with externalizing problems tend to create additional system pressures because they seek out novel situations that entail intensive processing of social and emotional cues and unexpected stressors and also require decision-making under conditions of uncertainty. Thus, relative to their higher-functioning peers, they place greater demands on their executive systems.
Shortfalls in EC point to deficiencies in how youth process and direct emotional information, make decisions when considering potential choices, and cope with overloads of emotional, social, and cognitive information (Luciana, 2013). As a result, youth with externalizing problems are less able to effectively down-regulate their emotional volatility and cope with stressors, and tend to exhibit poor proactive responses and make bad decisions. Here, coping is seen not just as responses to situations or events that are overtly stressful, such as threats and losses. Rather, coping includes overcoming challenges that arise from difficulties with social and emotional contexts and the vagaries of adolescence.

Coping as managing adverse social and emotional contexts also is at the heart of a prominent psychosocial framework for decision-making, social information processing (SIP, Crick & Dodge, 1994) and extended SIP models (Lemerise & Arsenio, 2000). Though SIP has been applied primarily to studying how social cognitions impact antisocial decision-making in children and adolescents, implicitly, it is also a theory of stress and appraisals, coping with hostile environments, and managing emotions like anger and fear that bias adolescents’ interpretations of events. Particularly within updated SIP models, “low road” or unconscious emotions are described as having direct access to decision-making channels, and emotion is characterized as influencing social cognitions across every SIP stage. Regulation of negative emotion is a necessary component of good decision-making because negative emotions narrow adolescents’ repertoire of goals, cognitions, and possible behavioral responses.

**Prevention Programs Targeting Emotion Regulation, Coping, and Decision-Making Skills**

Just as these three skills have been studied independently, prevention and intervention programs typically focus on one or two specific skills (such as anger management or coping) or on life skills broadly cast without clarifying core skills targeted, their interrelationships, or links
to behavioral outcomes such as externalizing. Consequently, we are limited to highlighting illustrative programs that target two or more of these skills although not always as a complete package (and not always stated explicitly), often in combination with other skills. Each of the programs provides solid evidence of effectiveness for improving emotion regulation, coping, or decision-making and reducing externalizing, most often in the form of large-scale randomized controlled trials (RCTs).

The illustrative programs we describe work with youth from middle childhood (an average age of 7 or 8) through late adolescence (age 18). Because the three target skills develop over time across childhood and adolescence, a clear mandate for prevention is to begin prior to the emergence of adolescent externalizing problems such as delinquency and violence. Indeed, the majority of skill-building programs with significant impact have been implemented during the elementary and middle school years. There is less evidence for effectiveness with adolescents (Wilson & Lipsey, 2007). On the other hand, given that intervention effects tend to erode over time and that skills continue to develop during adolescence, there is a critical need for innovative efforts to build key skills or to boost key skills again during this developmental stage.

These programs generally are implemented within primary developmental contexts for youth, most frequently families, schools, and communities. They are offered as population-based or primary prevention programs to enhance skills among all participants, or as targeted programs to address skill deficits among those most at-risk. In some cases, skill-building is accomplished directly via classroom lessons or focused instruction for children and youth. In other cases key “agents of change” such as parents learn techniques to promote skill acquisition for their children. Where possible, we provide effect sizes for illustrative programs, with sizes of .2 typically referred to as small, .5 as moderate, and .8 as large effects (Cohen, 1988). We also
provide cost data when available, as costs are a key factor influencing implementation and sustainability.

**Parent and family programs.** Parenting programs have been found to be effective in preventing or reducing youth externalizing behavior. For example, in a recent meta-analysis, Burrus et al. (2012) found an average effect risk ratio of .82 (estimated $d = .24$), translating to an 18% decrease in problem behavior relative to no or alternative treatment comparison groups. Although parenting programs likely impact adolescent behavior through a variety of mechanisms, they clearly play a role in building social and life skills. Parents who model and scaffold skills should help facilitate improvements in their children’s response to challenges and stressful events.

Coping Power is an example of an indicated program that targets highly aggressive children (in grades 5 and 6) and their caregivers to diminish child externalizing behavior vis a vis improvements in a range of skills that include emotion regulation, coping, and decision-making. Child components (34 weekly sessions delivered over a little more than one year) work to improve children’s social cognitive processing. Results include a reduction in biased attributions of others’ behavior, distorted perceptions, failure to compromise, and emotion-based, non-verbal solutions. Parents also learn and practice good child-rearing skills via individual sessions and home visits, ideally participating in ten sessions. Monthly individual sessions are also held with each child in order to establish behavioral goals and reinforce skill integration (Lochman & Wells, 2004). In a RCT, boys participating in Coping Power had significantly lower rates of covert delinquency relative to control youth ($d = .42$) one year post-intervention (Lochman & Wells, 2004).

Importantly, the process by which the Coping Power intervention brings about change in
youthful externalizing includes modification of the three key skills (or constructs closely related to these skills). Results indicated significant intervention-induced improvements in expectations for aggression (an aspect of decision-making), internal locus of control for attaining positive outcomes (an aspect of coping), and perceptions of others, including children’s ability to describe others’ complex feelings (which can contribute to emotion regulation) among at-risk boys. Further, program-induced change in these variables accounted for 7% of the variance in boys’ delinquency outcomes one year later (Lochman & Wells, 2002). However, the large portion of variance in subsequent externalizing that is not explained through these processes points to a need for improved construct measurement and perhaps refinement of approaches to strengthen core skills, particularly among those most at-risk. Costs for administering the Coping Power program are estimated at roughly $560 per parent-child pair, per the Blueprints for Healthy Youth Development initiative (http://blueprintsprograms.com). More extensive training is also available for optimal program delivery and greater maintenance of effects.

The Family Bereavement Program (FBP) is a second example of a family-based program considered within the rubric of core-skill interventions that leads to reductions in externalizing. The FBP is intended to help children and adolescents (ages 8-16) overcome the loss of a parent through improvements in coping (and we would argue, emotion regulation and decision-making). Specifically, the program is designed to facilitate youthful responses to adversity and disruptions in their environment.

FBP teaches these skills through a 12-session manualized small-group based program and draws heavily on modeling and role-play in individual meetings and parent-child dyads. Children and parents meet separately in small groups to learn strategies for reducing children's exposure to stress and future negative events, and for increasing coping and decision-making skills. Parents
and children also have some joint sessions to practice skills and homework assignments are especially important for their application.

In a RCT, FBP generated changes in positive coping (d = .30) and inhibition of emotional expression (d = .49), among other skills. At the 11-month follow-up, FBP generated increases in adaptive control beliefs (d = .40), an aspect of emotion regulation and coping, and for girls, increases in positive coping (d = .33) and generating problem solutions (d = .36), a component of coping and decision-making. Girls tested in this follow-up also demonstrated program-induced reductions in externalizing as judged by parents (d = .30) and teachers (d = .28). At the six-year follow-up, both boys and girls in the FBP demonstrated reductions in externalizing as judged by composite parent-offspring report and teacher report, respectively (d = .31, d = .59) (Sandler et al., 2010). Program youth also had higher cortisol responses (d = .39), and higher cortisol was associated with fewer externalizing problems (Luecken et al., 2010).

Changes in targeted skills also helped account for program effects on girls’ externalizing 11 months later (Tein, Sandler, Ayers, & Wolchik, 2006). For example, pre- to post-program decreases in inhibition of emotional expression accounted for 19% of the variance in program effects for child-report externalizing problems at the 11-month follow-up. Examining program-induced changes at the 11-month follow-up on concurrent externalizing, program-induced increases in positive coping (27% of variance), and adaptive control beliefs (28% of variance, an aspect of coping and decision-making) both led to reductions in girls’ externalizing. Thus, at least among girls, improvements in these aspects of emotion regulation, coping, and decision-making helped to generate meaningful reductions in externalizing. The estimated cost of the FBP in a natural delivery setting is approximately $1,763 per family or $653 per person (Foster, Porter, Ayers, Kaplan, & Sandler, 2007).
As a third example of an effective family-based program targeting the three core skills, Compas and colleagues (2010; 2015) developed a family-based 8-week + 4-monthly booster sessions, cognitive-behavioral intervention specifically focused on improving children’s coping skills and adjustment. Coping skills were defined broadly, and included skills such as acceptance, distraction, and positive thinking that also can be considered components of emotion regulation and decision-making. Results from a RCT revealed improvements in secondary coping skills (accepting the stressor, engaging in more positive thinking, and using cognitive reappraisal and distraction) among children and adolescents (ages 9-15) and reductions in externalizing behaviors (Compas et al., 2010). Specifically, at the six-month follow-up, youth increased in a composite parent/adolescent report measure of secondary coping comprised of acceptance (emotion regulation, coping), use of positive distraction (emotion regulation and coping), positive thinking (emotion regulation, coping), and cognitive reappraisal (emotion regulation, coping, decision-making), among other skills. Importantly, the intervention also generated reductions in parent reports of youths’ externalizing (d = -.36) at the one-year follow-up; and changes in these secondary coping skills mediated the intervention’s effect on externalizing (proportion of the intervention effect accounted for = .68) (Compas et al., 2010). Program-generated reductions in self-reported externalizing were also found at the two-year follow-up (d = -.28) (Compas et al., 2015). Although the intervention was designed with an eye towards cost-effectiveness, costs to deliver the program in the “real world” have not yet been estimated (B.E. Compas, personal communication, February 18, 2016).

**School- and community-based programs.** Skill-building programs in schools and communities tend to focus on a range of discrete social and emotional skills. In recent years, these have been defined within the broad rubric of “social and emotional learning” (SEL)
programs. Although different programs highlight different skills and there is no universally-agreed on set of core skills, overall these programs have been effective in promoting skill acquisition and reducing problem behaviors. Indeed, in a recent meta-analysis, Durlak and colleagues (2011) found that universal SEL instruction generates positive outcomes, with pre- to post-effect sizes of $d = .57$ for SEL skills (including cognitive, affective, and social), $d = .24$ for positive social behaviors (e.g. getting along with others), and $d = .22$ for conduct problems. Most of these programs include activities designed to improve emotion regulation and decision-making, and some address coping skills by teaching children and youth how to deal with challenging situations in daily life. In addition, more targeted coping interventions for select groups of children and youth (e.g. bereavement) have been implemented and have been shown to be effective in promoting coping and related skills.

Promoting Alternative Thinking Strategies program (PATHS; Greenberg, Kusche, Cook, & Quamma, 1995) is one example of a comprehensive school-based intervention that reduces children’s externalizing behavior through targeted improvements in emotion regulation, coping, and decision-making. PATHS is delivered by teachers across the school year via twice-weekly sessions that last roughly 20-30 minutes. The PATHS model closely parallels our own construal of coping, and suggests that a child’s internal regulation and behavior reflect his or her coping skills (Greenberg et al., 1995). Within this framework, children’s coping, in turn, is a function of emotion awareness, affective-cognitive control, and social-cognitive acuity. PATHS works to build and integrate children’s emotion understanding, self-control, and problem solving skills.

An independent cluster-RCT with third-graders found long-term effects for PATHS on children’s social information processing skills, all of which tap aspects of emotion regulation, coping, and decision-making. Specifically, results show significant differences in linear growth
between PATHS youth relative to controls one and a half years after the intervention, with PATHS youth reporting reductions in aggressive social problem solving (d = -.27), hostile attribution biases (d = -.27), and aggressive interpersonal negotiation strategies (d = -.28) (Crean & Johnson, 2013). Further, in a field RCT, normative youth in schools randomized to PATHS showed significant pre- to post-test improvements in emotion and coping-related skills, including children’s recognition that feelings change (d = .16, an aspect of emotion and coping), discussion of their own emotional experiences (d = .35, an aspect of emotion and coping) and ability to recognize emotion in others (d = .28, an aspect of emotion, coping, and decision-making) (Greenberg et al., 1995). Youth in the PATHS program also demonstrated reductions in externalizing behavior one year later, as judged by teachers (approximated d = -.31) relative to controls (Riggs, Greenberg, Kusché, & Pentz, 2006). Importantly, an examination of the mediating processes that accounted for this program effect showed that post-test inhibitory control (measured via the Stroop test, again associated with all three of the core skills) mediated the effect of PATHS on later externalizing (Riggs et al., 2006). The Blueprints for Healthy Youth Development initiative estimates one-year costs for PATHS at roughly $119.00 per student, assuming approximately 500 youth participants (http://blueprintsprograms.com).

Life Skills Training (LST) is another universal classroom-based program that shows wide evidence of effectiveness. The curriculum is designed to teach skills to help adolescents (grades 7, 8, and 9) deal with challenges they confront in their daily lives. LST emphasizes instruction in generic personal and social skills, including skills that we have argued for here, such as increased personal control, adaptive coping tactics for managing stress and anxiety, assertiveness, problem solving, and decision-making (Botvin, 2000a).

The long-term effectiveness of LST has been demonstrated across a number of problem
behavior outcomes. For instance, results from one large-scale randomized block RCT showed that LST led to reduced verbal aggression (estimated $d = .39$), physical aggression (estimated $d = .38$), fighting (estimated $d = .39$) and delinquency (estimated $d = .34$) in the previous year (Botvin, Griffin, & Nichols, 2006). In another large-scale randomized block RCT, LST led to a 23% relative reduction in marijuana initiation and a 21% reduction in cigarette initiation five-and-a-half years after program initiation. Importantly, the mediators of these program effects on substance use outcomes included assertiveness, locus of control, social anxiety, decision-making, and problem solving, all of which relate to our core skills and are likely to help youth think more strategically across different scenarios (Botvin, 2000b). Based on an estimated 600 students enrolled in LST, the Blueprints for Healthy Youth Development registry costs per student is approximately $17.00 (http://blueprintsprograms.com).

**Program design, timing and significance.** Notably, most of the successful interventions we have described work with significant adults in the lives of targeted children. For instance, family programs work with parents to address mutual building of skills. Often, teachers themselves deliver programming with assistance from researchers or consultants. Because these important adults are refining skills they are trying to foster, they are more likely to demonstrate continuity in how they socialize children. For instance, the PATHS program reports links between program outcomes and teachers’ generalization of skills outside of the curriculum (Conduct Problems Prevention Research Group, 1999).

Indeed, without some attention to the circumstances in which youth live, interventions are unlikely to exert long-term effects. Some interventions “pull out” youth from classes or their home lives, in an effort to infuse them with a particular set of skills, but fail to consider the contexts in which youth reside or existing resources within those settings. Simply injecting youth
with a set of skills, only to introduce them back to an environment with inadequate supports is less likely to lead to long-term gains. Without some sort of context change, whether an encouraging non-parental adult who can sponsor their growth or a family life that is capable of providing greater relational warmth, programs are unlikely to tip the scales in youths’ favor.

Although change in important adults combined with skill-building in youth is the modal approach underlying the successful interventions we have described, it does not capture all of the programs we have discussed. In some instances, effective interventions such as SEL programs and LST use project staff rather than teachers to deliver sessions (Botvin, 2000a). Thus for these interventions, positive effects cannot be attributed to change in important adult relationships. Instead, the processes targeted in these programs may perfectly correspond with youths’ developmental needs, for instance, by equipping them with personal attributes to help negotiate the vicissitudes of puberty and adolescence. For example, LST works to inoculate youth against antisocial norms that develop during high school. It also works to improve their resistance to negative peer influence—a powerful driver of adolescent externalizing behavior. Simultaneously with these risk-reduction strategies, LST bolsters personal competencies, including the ones focused on here—emotion regulation, coping and decision-making—better enabling youth to persist in healthy development.

In fact, one notable pattern among the intervention approaches we have described is that there is less evidence for effectiveness once youth enter high school (Wilson & Lipsey, 2007). As prevention programs, it makes sense most are timed prior to youths’ externalizing behavior involvement. But there are also several potential benefits to intervening later, during mid-to-late adolescence. For instance, effects of school-based intervention often fail to endure when youth transition into new settings (Eddy, Reid, & Fetrow 2000). Thus, for interventions conducted
during middle school, later booster sessions may be necessary. Regardless, interventions still need to target and integrate the three core skills during high school, when EC circuitry undergoes major refinement.

Of course, an alternative interpretation of the lack of strong program effects for adolescents is that with maturation in EC, development and integration of skills occurs regardless of intervention. As a result of niche-picking, informal mentoring, or partnering, even at-risk youth may eventually up-skill on their own. Indeed, many youth desist from engaging in externalizing behaviors of their own accord (Bongers et al., 2004). Yet the economic and social costs of relying on these factors as catalysts for desistance are significant. For instance, in the U.S. costs of crime have been estimated at between one and two trillion dollars per year (Ludwig, 2010) and the costs attributable to offending among mid-to-late adolescents are among the most monetarily expensive (Piquero, Jennings, & Farrington, 2013). As a result, intervention is still advisable, even during late adolescence and developmental research supports intervention during childhood and adolescence as a strategic investment (Guerra et al., 2014).

**Recommendations for Effective Skill Targeting within Interventions**

We have shown with illustrative examples that (a) emotion regulation, coping, and decision-making are three core skills for healthy development that also are linked to adolescent externalizing problems and their precursors (e.g. early aggression); (b) these skills can be modified through relatively low-cost skill-building interventions within families, schools, and communities; and (c) improvements in these three skills portend short and sometimes long-term prevention of externalizing and improvements in behavior, although there are fewer empirical studies with adolescents. What is less clear from the extant literature is how to integrate these skills in a comprehensive and feasible manner and specific strategies that foster the greatest level
of skill acquisition.

How can programs best integrate these three skills, in a manner that puts them at center stage, promotes skill acquisition, and aligns with key developmental tasks which apex during adolescence? There is no consensus on how we might best approach improvements in emotion regulation, coping, and decision-making, but we offer five observations. First, elementary school programs that tie personal skill-building into strategies that boost positive connections with teachers and peers may be especially useful, as children’s self-concepts about personal abilities and social competencies crystalize during this time. Such whole school approaches, that build coping, emotion regulation and decision-making skills of teachers and other school personnel, can work to improve the concentration of positive reinforcements for prosocial behavior (Burrus et al., 2012). In this case, the whole of the school, even students, can act as “treatment agents” to help foster each other’s emotion regulation, coping, and decision-making (Eddy et al., 2000). Ideally these programs would bridge to families and boost parents’ ability to foster skills in their offspring and nurture positive connections.

Second, although whole school approaches that also connect to parents seem to be best practice during childhood, direct approaches to enhance skills in emotion regulation, coping and decision-making during adolescence are also desirable and have the potential to be beneficial on their own. During adolescence, neurobiological and psychosocial readiness are coupled, and programs can capitalize on this convergence to build on youths’ improving capacity for abstract thinking and social understanding, and as well as their expanding access to novel opportunities for practicing and integrating skills. Because adolescence is a time of increasing autonomy to make important life decisions, it may be that a framework that addresses the dynamics of adolescent decision-making and highlights the integral role of emotion regulation and coping (as
challenges and difficulties become more complex during adolescence) would resonate with youth. This could frame primary prevention efforts to help all youth develop key "life" skills as they make important decisions (both immediate and long-term), as well as provide more intensive intervention for those most at-risk of externalizing problems. Indeed, the programs we have discussed range from targeted to universal, and while selected programs will need to cover basic skill acquisition in addition to skill integration, we believe a focus on the three linked skills for adolescents is an effective approach across the risk spectrum.

Across this spectrum, a framework for developing “life” skills works to cultivate adolescents’ strategic decision-making, which hinges on regulated emotion and positive coping. Existing decision-making programs with adolescents could shift their focus to better emphasize emotion regulation and coping as underpinning strategic decisions. In expanded form, these programs may broaden their translation across settings and contexts. As one example, Viewpoints is a well-known program that has been shown to improve decision-making skills and invoke short-term reductions in externalizing in the context of experimental intervention (Guerra & Slaby, 1990). Given its effectiveness in improved decision-making, Viewpoints could be readily incorporated as a module within a broader “upskilling” program that integrates emotion regulation and coping to guide creative and constructive problem solving and positive behavior, more generally. Although these skills typically are embedded in decision-making and social problem solving interventions, we believe they merit greater focus and attention in terms of allotted time for instruction and skill-building.

Third, programs designed to stimulate strategic thinking might ideally be embedded in novel, active-learning frameworks for skill up-take. Embedding programs in innovative experiential-learning modalities can provide a rich context for youth to “try out” different skills
and work through challenges associated with novel settings and peer dynamics. For example, strategic thinking is sometimes embedded in engaging activities such as sports and music that emphasize more active learning frameworks and often do not even identify key skills targeted (Modecki, Barber, & Eccles, 2014). Youth service and youth engagement activities, as another example, operate, in part, by fostering strategic thinking in service of broader life decisions and goals (Larson & Angus, 2011). Leveraging these activities as opportunities for youth to reflect on the automaticity of their decisions under pressure and use of emotion regulation and coping strategies in response to setbacks could help bridge skill use to other realms (Heller, Pollack, Ander, & Ludwig, 2013).

Fourth, the literature on emotion regulation points to the positive benefits of cognitive reappraisal, problem solving, and acceptance, but negative effects of emotional suppression, avoidance, and rumination (Aldao, Nolen-Hoeksema, & Schweizer, 2010). This means we should teach (and help youth to practice) acknowledging and managing emotions rather than avoiding them. There is little agreement on the best strategies to help youth understand how to put coping strategies into action, how to match the right coping responses to a stressor, or how to feel efficacious and be flexible in coping responses as applied to everyday life. This suggests a need for future research to apply and evaluate coping enhancement programs for helping youth deal with normative stressors and challenges, as well as extreme events.

Fifth and finally, programs that treat antisocial decision-making as a purely cognitive cost-benefit analysis or that focus only on negative consequences are unlikely to be effective because they have little in common with the decision contexts and processes teenagers face. Youth engage in externalizing because these behaviors offer “a rush” and boost social currency, but they also ameliorate boredom and provide an escape valve from pressures and worries.
(Modecki, 2009). This suggests that in addition to encouraging youth to appropriately channel their excitement-seeking and withstand negative peer influence, programs to enhance healthy decision-making should also draw attention to the ways “acting out” is compelled by boredom, anger, unregulated emotions, and ineffective coping with stress. Overall, interventions should better address mechanisms by which challenges, not just major life events but also daily hassles, troubling peer, school, and family environments, and emotion under- and over-regulation—and the chronicity of these challenges—contribute to adolescent decision-making.

Conclusion

We argue that improving adolescents’ emotion regulation, coping, and decision-making represent “best bets” for preventing externalizing behavior and its consequences. Young people who can effectively and flexibly recognize and regulate their emotions, who are able to process and respond to the personal and situational demands of adolescence effectively, and who are planful and strategic in their coping responses and in the way they make choices, have a host of tools for dealing adaptively with stressors and challenges. Our premise is that the combined effects of emotion regulation, coping, and decision-making skills should be greater than the sum of their parts. Each skill should enhance the effects of the others in their capacity to shape adolescents’ circumstances and behavior, so that youth can better leverage their own strengths and their social resources and transition to a healthy and productive adulthood.
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