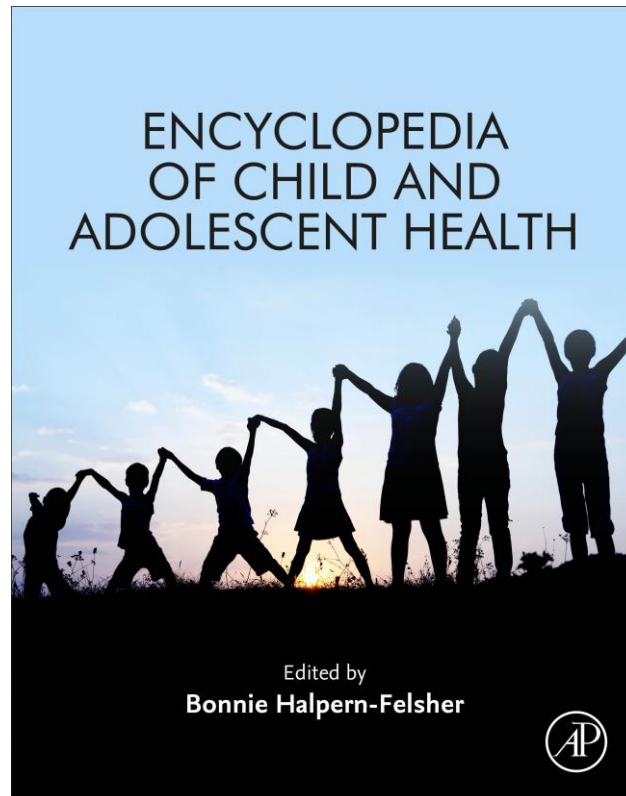


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Coping skills

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Abstract

Coping skills include a range of actions and adaptations in response to stressful experiences, which can be critical for determining pathways of resilience and vulnerability in children and adolescents. This article describes major theories of stress and coping concentrating on a developmental motivational theory of coping. Following this background, four topics are addressed, including (1) the coping skills used by children and adolescents and how they change with age; (2) the impact of coping skills on adjustment and wellbeing, extending this to consider other processes and competencies (e.g., perceived control) integral to understanding the impact of coping skills; (3) the capacity for coping flexibility and its potential for new research directions; and (4) the evidence of coping skills as mechanisms of the effectiveness of interventions and therapies for at-risk youth.

Young people need good coping skills to tackle the myriad of stressful events they are likely to encounter. These stressful events can take many forms, such as major life events (e.g., death of a loved one, illness, and, of recent importance, major threats to health and global stability), daily hassles (such as academic difficulties and failures or bullying) or more normative developmental transitions (such as changes, shifts and tensions within parent and peer relationships). The coping skills young people deploy when stressful events occur are often linked to their subsequent development and whether they follow risky or resilient pathways (Aldwin, 2011; Compas et al., 2001; Skinner and Zimmer-Gembeck, 2016). Therefore, investigations of the ways in which children and adolescents cope with stressful experiences have much to offer for understanding developmental pathways and outcomes, for learning how to boost resilience across difficult transitions, and for developing intervention approaches aimed at helping youth rebound from unfavorable circumstances that threaten their wellbeing.

Given the vast literature on stressful life events, daily hassles and coping, it is often difficult to clearly define coping and to integrate theories and research findings. Across this literature, there are a variety of views on the nature of coping, the mechanisms involved in stress-coping processes, and how best to understand when coping is effective. Moreover, theories of stress and coping have a long history and include many, sometimes contradictory, assertions regarding individual differences in coping and subsequent adjustment (see Lazarus and Folkman, 1984 or Skinner et al., 2003). Despite this variety, most definitions converge on a view that defines coping as a set of responses and adaptations to stressful experiences, whether coping responses are focused on changing the self or changing the environment, about taking action or avoiding stressors, about managing emotion or persevering at goals, about getting others to help or doing it on your own, or whether responses are adaptive or unproductive. That is, at its core, coping involves all the ways in which people, across all ages, direct and manage their attention, emotions, physiology, cognition, motivation, and behaviors to best act on the available personal and social contingencies with the aim of lessening or altering the impact of particular sources of stress (Compas et al., 2001; Lazarus and Folkman, 1984; Skinner and Zimmer-Gembeck, 2007, 2009). In this way, coping is inherently about attempts at adaption and involves a myriad of processes that help youth to manage stressful events and adversity, and their distress reactions to these events.

In order to build on this definition and pull together what is known about coping skills among children and adolescents, this article reviews the existing literature on coping in children and adolescents and summarizes what is known about how coping responses relate to health and well-being. In doing so, we describe the crucial role coping plays in protecting young people's mental and physical health from the harmful effects of stress and review important considerations that can help researchers and practitioners make sense of the literature on child and adolescent coping. The chapter begins with an introductory section that describes coping skills from the perspective of coping as action regulation under stress (Skinner and Zimmer-Gembeck, 2007, 2009,

2016). This view of coping is explicit in identifying coping as part of a developmental process—a view that simultaneously considers: (a) coping skills as closely connected to many other developing individual capacities of children and adolescents (e.g., cognitive or attentional improvements) alongside stable and changing social relationships that can support or undermine coping skills, and (b) coping with stressful events as not only a precursor of risky and resilient pathways, but also as a driver of learning and development at many levels.

Following this introduction, research is briefly reviewed on four topics. First, we focus on the question, “What are coping skills?”—presenting skills within a framework that links them to appraisals and shows how this framework can be applied to young people’s coping with interpersonal, academic, and medical-related stressors in their lives. In doing so, we also summarize the ways that coping skills more generally relate to psychosocial adjustment concurrently and over time for both children and adolescents. Second, we describe how individual and developmental patterns shape these ways of coping, and how individual differences in appraisals, as well as developments in cognitions and executive functions, help to better account for the transactional associations between stress, ways of coping, and psychosocial adjustment.

Third, we describe an emerging area of research focused on coping flexibility. Although very little research has yet examined coping flexibility in children and adolescents, and there has been no research on its development in childhood and beyond, we describe the area here to encourage future attention to this topic and highlight its potential for intervention and treatment approaches into the future. Fourth, we draw attention to how bodies of research on the various elements within the stress-coping process have been applied in prevention and intervention efforts to improve child and adolescent health and wellbeing. This section specifically highlights how researchers have identified stress appraisals, coping skills and beliefs about coping competence as mechanisms explaining why commonly used interventions and treatments are effective for improving mental health in at-risk groups of children and adolescents.

Coping as action regulation under stress

Historically, the study of children’s coping emerged from downward extensions of stress-coping models created with adults in mind. Most prominent here was Lazarus and Folkman’s (1984) transactional model of coping. In this transactional model, coping was defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). From this perspective, coping is viewed as an ongoing and episodic process taking place over time. During this process, an individual appraises experiences as taxing their personal or interpersonal resources, and following this appraisal, coping efforts are directed at either resolving the difficulty at hand (i.e., engaging in problem-focused coping) or managing the negative emotional sequelae stemming from the source of stress (i.e., engaging in emotion-focused coping). This definition focuses on three main tenets which remain highly influential in research on stress and coping to this day: (1) coping involves a transaction between the individual and their environment, (2) cognitive appraisals made during the coping process largely shape individual differences in the ways people respond to the source of stress, and (3) coping is a goal-directed process in which the individual orients their thoughts and behaviors to attempt to regulate and resolve the overall stressful experience. Expanding on this, many researchers have illuminated a range of individual characteristics that can modify this process. For example, research suggests gender or racial/ethnic background (Flannery et al., 2018; Skinner and Zimmer-Gembeck, 2009) may play a role in stress appraisals and coping responses, whereas others highlight historical experiences, family socialization, personality characteristics or social circumstances that can impact transactions, appraisals or coping responses (e.g., Bonanno and Burton, 2013; Derryberry et al., 2003; John and Gross, 2004; Wadsworth, 2015; Zimmer-Gembeck and Locke, 2007). While the transactional model of coping and its extensions are clearly the most dominant view of adult coping, inspiring tens of thousands of empirical studies, there are inherent limitations when it is applied to children and adolescents. Most importantly, it does not consider important developmental processes, constraints, and supports that are key to understanding how youth appraise and subsequently respond to stressful experiences (Compas et al., 2001; Fields and Prinz, 1997; Skinner and Zimmer-Gembeck, 2016).

Drawing from tenets of this transactional model but also considering developmental perspectives (e.g., Eisenberg et al., 1997), the motivational theory of coping (see Skinner and Wellborn, 1994) provides an integrated definition of coping as action regulation under stress (Skinner and Zimmer-Gembeck, 2007). Here, an understanding of coping is developed from multiple frameworks to encompass “how people (infants, toddlers, children, adolescents, and adults) mobilize, guide, manage, energize, and direct behavior, emotion, and orientation, or how they fail to do so” (Skinner and Wellborn, 1994, p. 113) under stressful conditions. Collectively, this definition attempts to integrate coping as a function of all the regulatory aspects of the human system (e.g., physiological, neurological, emotional, attentional, cognitive and motivational) along with advances from separate literature on risk and resilience in youth, and put forth the idea that coping not only is a function of the integration of all these regulatory human subsystems but also that it operates at three general levels that occur dynamically across the lifespan (see Fig. 1; Skinner and Zimmer-Gembeck, 2016). Identifying these levels points to the importance and complexity of coping, and the challenges children and adolescents must confront when “learning to cope” with stress. Focusing on these three levels also highlights the many strands of research relevant to forming a comprehensive understanding of the role of coping in health, development, and well-being.

Starting at the middle level in Fig. 1, coping is an episodic process unfolding once personal or environmental demands are appraised as threatening or challenging. Combined with the available social and individual resources, appraisals help to organize responses that often take place until the stressful experience is resolved. This interaction between the individual and their

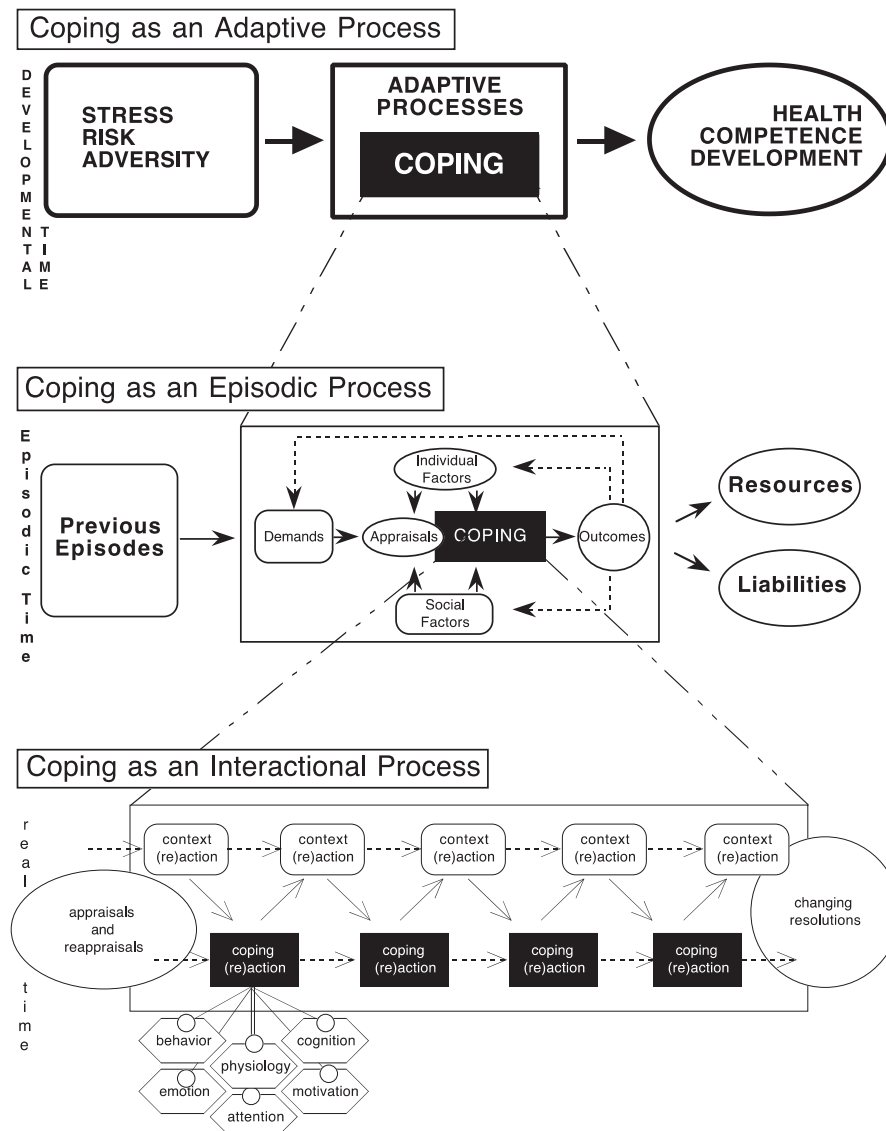


Fig. 1 Multi-level conceptualization of coping as a developmental process, an episodic process and an interactional process. Skinner EA and Zimmer-Gembeck MJ (2007) The development of coping. *Annual Review of Psychology* 58: 119–144.

environment can take place over days and weeks and reflects how specific ways of coping (or coping skills) function with respect to individual characteristics, specific social contexts, and ongoing demands. If a child perceives a stressful demand as challenging and within their control and ability to overcome, and provided that there are adequate personal and interpersonal supports available to the child, it is likely that coping will be successful in resulting in an adaptive outcome and further resources for the child into the future. If, however, a child perceives a stressful demand as threatening and outside of their control and ability to manage, coupled with sub-optimal (or even aversive and abusive) personal and interpersonal supports, it likely that coping will be unsuccessful and produce further risk and liabilities for the child into the future.

Pictured at the bottom level of Fig. 1 is coping as an interactional process, which highlights further nuances in how coping unfolds moment-by-moment during specific transactions as a child or adolescent forms, makes sense of, and revises appraisals and coping reactions based on ongoing changes and developments within the environment. In this way, coping can be considered as a more micro-level process of momentary interactions, and assessments of coping at this level aim to better assess on a short-term basis how daily exchanges, appraisals, setbacks, and opportunities help to move the process along to resolution (e.g., Duvenage et al., 2019).

At the top level of Fig. 1 coping is depicted as an adaptive process, representing a broader concept of coping as a process and mechanism of adaptation and resilience. Here, the whole of the coping process, at both the episodic and interactional levels, acts as a primary mechanism through which youth's responses to experiences of risk and adversity can optimize health, wellbeing, learning

and development. Coping then becomes a source of adaptive learning and, eventually, development and change in individuals' skills at managing stressful experiences take place. At this level, it is easy to see how coping is then a crucial component for long-term outcomes and should be explicitly considered in basic and applied examinations of how youth respond and rebound from stressful or risky experiences. In considering this multi-level framework of coping, an appreciation of its complex and multi-faceted nature can be developed as coping unfolds across developmental periods and encompasses many aspects of the child's regulatory subsystem (e.g., attention, cognition and motivation) that must ultimately work together when under stress, and also considers individual, interpersonal, and environmental influences that determine its eventual impact on both physical and emotional health (Skinner and Zimmer-Gembeck, 2007, 2009, 2016).

Ways and families of coping

Coping skills are varied and multi-faceted, as illustrated by a review that identified more than 400 ways of coping across studies of children or adolescents (Skinner et al., 2003). Nonetheless, some ways of coping share conceptual space and suggest underlying themes which has been used to categorize or combine specific actions or ways of coping (i.e., coping skills) into broader composite families of coping (see Table 1; see also Skinner and Zimmer-Gembeck, 2007, 2016). From this categorization, ways of coping reflect the specific actions, such as planning, social withdrawal or thinking about something else, that are typically seen (or reported) when children or adolescents encounter stressful experiences. These actions are then organized into higher-order categories (i.e., families of coping) based on a consideration of the adaptive purpose or function coping would serve. Four families for each adaptive purpose are proposed, which are more or less likely to emerge depending on specific appraisals of the stressful event (e.g., the level of threat or challenge posed by the stressor; whether the stressor is appraised as within or outside personal competencies to manage or to control). These families include, for example, problem-solving which can subsume many different specific actions that have the function of finding a solution to the stressor, or escape, which can subsume many different specific actions that serve the function of removing oneself from the stressor.

Overall, the motivational theory of coping identifies 12 families of coping (see Table 1), with six families of coping, which have been called challenge coping responses in some research (e.g., Zimmer-Gembeck et al., 2016), often related to better outcomes for children and adolescents (e.g., Flannery et al., 2018; Gardner et al., 2021; Stone et al., 2019). The remaining six families, which have been called threat coping responses, are often reflective of or related to poorer outcomes (e.g., Chung et al., 2019; Massey et al., 2011; Zimmer-Gembeck, 2015). The six challenge coping responses include problem-solving, information seeking, self-reliance, support-seeking, accommodation, and negotiation. The six threat coping responses include helplessness, escape, delegation, social isolation, submission, and opposition.

These families of coping are not just skills that are equally applied across all stressful situations or in all children, but instead, multiple coping responses are often used within any one stressful event. Moreover, the coping families and their related coping actions are tied to individual capacities and developmental level, and to the contingencies and supports available within the environment. Here, the specific families of coping are shaped by appraisals of whether the stressful situation is threatening or challenging, which depends on context and available supports, and whether the individual perceives him or herself as capable of

Table 1 A hierarchical model of the families and ways of coping.

Adaptive process 1: Coordinate actions and contingences in the environment (cope with threats to competence)				
Family of coping	1. Problem-solving	2. Information-seeking	3. Helplessness	4. Escape
Adaptive function of family of coping	Adjust actions to be effective	Find additional contingencies	Find limits of actions	Escape non-contingent environments
Ways of coping	Strategize; instrumental action; plan; mastery	Reading; observation; asking others	Confusion; cognitive interference; cognitive exhaustion; passivity	Behavioral avoidance; mental withdrawal; flight; denial; wishful thinking
Adaptive process 2: Coordinate reliance and social resources available (cope with threats to relatedness)				
Family of coping	5. Self-reliance	6. Support seeking	7. Delegation	8. Social isolation
Adaptive function of family of coping	Protect available social resources	Use available social resources	Find limits of resources	Withdraw from unsupportive contexts
Ways of coping	Emotion regulation; behavior regulation; emotional expression; approach	Contact seeking; comfort seeking; instrumental aid; social referencing	Maladaptive help seeking; complaining; give up; self-pity	Social withdrawal; concealment; avoiding others
Adaptive process 3: Coordinate preferences and available options (cope with threats to autonomy)				
Family of coping	9. Accommodation	10. Negotiation	11. Submission	12. Opposition
Adaptive function of family of coping	Flexibly adjust preferences to options	Find new options	Give up preferences	Remove constraints
Ways of coping	Distraction; cognitive restructuring; positive thinking; minimization; acceptance	Bargaining; persuasion; priority seeking	Rumination; rigid perseveration; intrusive thoughts; expressive suppression	Other-blame; projection; aggression; defiance

Skinner EA and Zimmer-Gembeck MJ (2007) The development of coping. *Annual Review of Psychology* **58**: 119–144.

successfully executing the actions required to bring about a desired outcome (e.g., reduce emotional distress, overcome a setback, continue to engage in goal-directed behavior). In this way, the framework also identifies the individual and social conditions that might make it more difficult or easier for children and adolescents to use challenge rather than threat coping responses. For example, if a child perceives a stressful event as a challenge rather than a threat and within their capacity to resolve (i.e., controllable), they may deploy any number of ways within the problem-solving family of coping. These problem-solving coping actions might include actively strategizing ways in which to resolve the problem, planning different options and ways to overcome possible consequences, or taking direct and specific action to resolve the issue at hand. However, a child who perceives a stressful event as very threatening and outside of their ability to resolve (i.e., uncontrollable) may deploy a variety of ways within the escape family of coping, such as mentally withdrawing from the stressful experience, denying its occurrence, and fantasizing about its resolution (i.e., wishful thinking), or physically leaving the situation creating the source of stress.

Relations of families and ways of coping with psychosocial adjustment

While one aim of the motivational theory of coping is to organize ways of coping, linking families of coping with their functions and with personal and social contingencies, it has been very appealing to researchers, educators, and practitioners to instead focus on identifying the coping skills that are good versus bad for children's health and well-being. This focus has been emphasized either across different stressors or within particular stressful event types (e.g., medical events or divorce). Thus, much of the research on stress and coping during childhood and adolescence has aimed to distinguish the ways of coping that are beneficial or detrimental to well-being, including studying emotional problems, behavioral problems, life satisfaction, well-being, and many other related mental health outcomes (e.g., [Chung et al., 2019](#); [Compas et al., 2017](#); [Zimmer-Gembeck, 2015](#)). Yet, as the families of coping highlight, specific ways of coping are highly dependent on changes and developments in how youth perceive ongoing personal and environmental demands, indicating that any of these ways of coping can be adaptive within some contexts but problematic in others.

Nonetheless, there is empirical evidence suggesting that some ways of coping seem to be more beneficial for well-being and other positive outcomes than alternative ways, revealing reliable connections with various indicators of health and wellbeing across development. For instance, [Compas et al. \(2012\)](#) reviewed 16 articles and found support for the role of perceived controllability in shaping the ways in which youth cope with medical conditions and chronic illnesses. More specifically, they found that secondary control coping (or accommodative coping that reflects efforts to adapt to stress through reappraisal, positive thinking, acceptance and distraction) was most consistently associated with better adjustment to chronic illnesses while disengagement coping (efforts that orient the child away from engaging with the stressor or emotional reactions to the stressor through avoidance, denial or wishful thinking) was most consistently associated with poorer adjustment. Findings regarding primary control coping (efforts to directly change or alter the stressor or emotional reactions to the stressor through problem solving and emotional modulation) were mixed with regards to its benefit for adjustment (i.e., six studies found these ways of coping to be beneficial for adjustment, eight studies found them to be detrimental and the remainder found non-significant relations).

Turning attention to symptoms of psychopathology and mental health, [Compas et al. \(2017\)](#) in their meta-analytic review of 212 studies of children and adolescents focused on the unique relations of factors, domains, and strategies of coping on the one hand, and emotion regulation with internalizing and externalizing symptoms on the other. Although the categories of coping considered in this review diverge from the families of coping identified by the motivational developmental theory described previously, the findings were generally consistent with the six challenge coping strategies as beneficial and the six threat coping strategies as problematic for well-being and behavior. To be more specific, composites of ways of coping that suggest taking action to address or change the stressor (primary control coping), as well as actions to accommodate or adjust to the situation emotionally or physically (secondary control coping) were associated with fewer symptoms of mental health problems in children and adolescents. Conversely, actions that reflect helplessness, withdrawal or avoidance (a composite of disengagement coping) were associated with more problems. Further, in studies that differentiated coping into either problem-focused coping or denial and avoidance, focusing on the problem was associated with fewer externalizing symptoms (e.g., hyperactive or aggressive behavior), while strategies of denial and avoidance were associated with more symptoms. What deserves more attention, however, are the findings summarized by [Compas et al. \(2017\)](#) showing weaker evidence that coping is a temporal precursor of improvements or declines in child or adolescent well-being. In this case, many fewer effects were found, with the evidence indicating that a few ways of coping might show such longitudinal effects, including disengagement coping, social support coping, and avoidance, all of which were linked with increased internalizing symptoms over time.

Findings may, of course, depend on the type of stressor children or adolescents are confronting. One common domain of stress for young people is academics and, importantly, the families of coping do seem relevant to understanding academic outcomes. In a review of 66 studies during childhood and adolescence, [Skinner and Saxon \(2019\)](#) found that children who reported more use of problem-solving, support-seeking, and self-reliance to cope with academic stress had better concurrent academic performance and functioning, with more consistent and unique effects found for problem-solving. Similarly, greater endorsement of escape, social isolation, and opposition were generally associated with worse performance and functioning, with consistent and unique effects found for escape. Additionally, several of these ways of coping significantly connected with functioning and performance over time, but more importantly, an interesting and unexpected finding was revealed whereby one study reported that rumination may sometimes be productive, as it was associated with increases in re-engagement with difficult academic material and decreases in giving up.

In summary, considering the three reviews summarized above, ways of coping that fall within the escape family of coping appear to be consistently connected to poorer academic functioning and worse emotional and physical health. At the same time, the problem-solving family of coping appears beneficial for those stressors that are within the young person's direct ability to control (e.g., academic stress) and the accommodation family of coping appears most beneficial for stressors outside of one's control (e.g., diagnoses of diabetes and pediatric cancer). However, unexpected findings were also found with social support accounting for greater increases in internalizing symptoms and rumination associated with greater increases in academic re-engagement; indicating that ways of coping may not always connect with outcomes in expected ways. This is particularly important to acknowledge as both social support and rumination (and in fact, each of these specific ways of coping) are often more nuanced than first meets the eye. For example, rumination as a way of coping is often considered a multi-faceted composite of helpful (e.g., reflections on difficult circumstances with an attempt to overcome them) and harmful (e.g., obsessively or anxiously thinking about the negative aspects of difficult circumstances with no attempts at resolution) components with each component likely to differentially associate with health and well-being (Smith and Alloy, 2009). Therefore, although there is a long tradition of identifying adaptive versus maladaptive ways of coping, as coping theorists have long articulated (e.g., Lazarus and Folkman, 1984; Skinner and Zimmer-Gembeck, 2007), some, if not all, coping responses to stressful events can have positive or negative consequences depending on the specific circumstances.

In support of the notion that any specific way of coping may have optimal or less than ideal consequences depending on the circumstances, literature on the ways in which at-risk children cope in traumatic or impoverished environments is useful to consider. Youth who are born into, or develop within, chronic and uncontrollable environmental contexts of violence, abuse, neglect, or social disadvantage often develop primitive, reactive, and rigid coping and regulatory systems that predispose them to a range of emotional and physical problems in the long-term (Cohen et al., 2006; Seiffge-Krenke, 2004; Wadsworth, 2015). However, in the short-term, these rigidly applied ways of coping (e.g., physically withdrawing from interparental conflict) often protect children from further violence and victimization, therefore being functional ways of responding to extremely traumatic environments (Wadsworth, 2015). In the face of chronic and uncontrollable stress, these ways are then more adaptive in the short-term compared to more active attempts to solve problems or manage emotions, since these latter coping responses may often lead to undesirable outcomes of abuse for the child. Yet, the deployment of these threat coping strategies, though useful for emotional or physical protection in the short-term, often come with long-term risk for adaptation and resilience in the future as youth come to overly rely on these ways of responding to all forms of difficulties. Therefore, for at-risk youth in chronically stressful environments, it is essential for coping interventions to help repair these regulatory systems and allow these youth to adopt a flexible coping style that adapts according to the demands of various stressful situations (Dorsey et al., 2017; Seiffge-Krenke, 2004; Wadsworth, 2015), both points with which we return to later in this article.

Individual and developmental considerations in the study of child and adolescent coping

Age-related changes in coping

One of the biggest challenges within the literature on the benefits of coping across childhood and adolescence concerns the lack of research utilizing a developmental framework that accounts for changes in the expression, use, and efficacy of these families and ways of coping as youth grow older. Importantly, developmental capacities (e.g., increasing cognitive and executive function, ability to foresee and hold multiple perspectives in mind) constrain the extent to which young people are able to fulfill the adaptive function served by each family of coping (Aldwin, 2011; Skinner and Zimmer-Gembeck, 2009; Zimmer-Gembeck and Skinner, 2011). Guided by the motivational theory of coping, Skinner and Zimmer-Gembeck (2009, 2016) highlight key age periods during which coping shows developmental shifts from infancy to early adulthood. Furthermore, with the emergence of physical, language, cognitive and meta-cognitive capacities, youth often move from more interpersonal (or co-regulatory) to independent (or self-regulatory) forms of coping and are more likely to become more intentional, differentiated, and calibrated in the ways in which they deploy particular ways of coping in response to stressful events. For instance, in their review of 58 studies, Zimmer-Gembeck and Skinner (2011) found several age-related trends in the strategies children and adolescents relied upon most, namely, problem-solving, distraction, support-seeking, and escape. Though there were age trends found in some of the other families and ways of coping (e.g., self-reliance, submission, and helplessness), we focus on the results of the four most common ways and refer the interested reader to Zimmer-Gembeck and Skinner (2011) for a more detailed review.

For the problem-solving family of coping, there was evidence to suggest that these ways of coping were noticeable from middle childhood, were deployed in response to multiple forms of stressors and generally increased in several forms (e.g., instrumental support-seeking, decision-making, and mastery behaviors) from later childhood and across the remainder of adolescence, despite a slight decline as youth enter middle adolescence. Of importance, no support was found for age differences from about pre-adolescence onwards in problem-solving when youth were faced with uncontrollable or interpersonal stressors; and when problem-solving included measures that also incorporated emotion-focused support seeking, there was some evidence for age-related declines into middle and later adolescence. With regards to distraction, there was a distinction made between behavioral and cognitive forms, which followed slightly different trends across development. For instance, behavioral distraction strategies were a common way of coping (especially with uncontrollable stressors) from infancy with some increases revealed by middle childhood as youth became more intentional in its deployment. Nonetheless, there was generally no age-related change as youth entered adolescence. On the other hand, children appeared to become more aware of cognitive distraction as a possible way to cope

with stress around early to middle childhood and it increased in usage across middle adolescence in situations where youth were not able to engage in behavioral forms of distraction or when measures were combined with other ways of coping within the accommodation family. Both forms of distraction, however, appeared to become more organized, were more frequently deployed to deal with specific problems, and became more flexible as youth grew older.

Also evident from early in development, was that infants most often directly sought support from their parents and caregivers (or other attachment figures), a strategy which generally decreased into later childhood and became more differentiated. Specifically, seeking direct emotional support from parents remained high from late childhood onwards but decreased in usage, while seeking direct emotional support from friends and peers increased during this same period. At the same time, there was evidence suggesting that information-seeking from adults may increase across adolescence and both it, and help-seeking, tend to become more organized, flexible, and deployed to deal with specific problems as youth grew older. Finally, there were few age differences or changes found in the escape family of coping despite evidence that it is one of the four most common ways of coping with stressful problems (especially in response to uncontrollable stressors in early childhood). Nonetheless, of the few age-related changes found, decreases in usage started around later childhood (even when escape was combined with other forms of avoidant coping). Of note, there was some evidence to suggest that cognitive forms of escape (e.g., denial) increased during early adolescence. While these four families and ways of coping were most common during childhood and adolescence, as can be seen, findings from the review revealed important changes that take place across development in both the form and application of these ways of coping. These trends, in turn, have ramifications for how young people's own developmental capacities either aid or constrain the deployment of specific ways of coping with stress.

Gender differences in coping

In addition to age-related changes, boys and girls have also been found to differ in the frequency and usage of specific ways of coping (Gardner et al., 2021; Seiffge-Krenke et al., 2009; Zimmer-Gembeck and Skinner, 2015). For example, in two separate Australian samples, girls reported greater support seeking and less self-acceptance in coping with appearance concerns compared to boys (Gardner et al., 2021) and greater support seeking, distraction, negotiation and rumination in coping with peer rejection concerns compared to boys (Zimmer-Gembeck and Skinner, 2015). In a longitudinal study of adolescents over 4 years (Seiffge-Krenke et al., 2009), adolescent girls reported more active and support seeking coping than boys. In addition, adolescent girls and boys differed in the situations they reported to be most stressful. Adolescent girls found peer relationships more stressful and romantic relationships less stressful than adolescent boys. Furthermore, there was no change in this gender difference between early and later adolescence.

Overall, however, little attention has been devoted to identifying gender differences in coping across time and examining how gender-specific patterns of coping may change across development from childhood to adolescence. One study did use a novel analytic method to examine gender-specific changes in ways of coping across adolescence (Flannery et al., 2018). Consistent with the review conclusions of Zimmer-Gembeck and Skinner (2011), increases were found in the problem-solving family of coping (including planning and active coping) for both boys and girls throughout middle-to-late adolescence, though adolescent boys reported using active coping less than girls briefly during mid- to late-adolescence. Adolescent boys were also found to use instrumental and emotional support seeking less often than girls across development, and there were different age-related changes in boys compared to girls. Adolescent boys declined in usage of both forms of support seeking between early to mid-adolescence but reported increases from late adolescence onwards, whereas adolescent girls were relatively stable in their use of both forms of support seeking until later adolescence. Further, there were no gender-specific patterns evidenced in the use of denial as a specific way of coping, and for both boys and girls, the use of denial to cope with stress remained relatively low and stable across adolescence. Similarly, using humor to cope with stress remained stable across adolescence for both boys and girls although adolescent boys often reported greater use of humor to cope from mid- to late-adolescence and onwards compared to girls. Combined, these findings reveal the importance of applying a developmental framework to the study of coping skills during childhood and adolescence, along with examining gender-specific developmental patterns to best understand how and when commonalities or differences exist within these ways of responding to stress.

Individual appraisal tendencies

Along with age-related changes and gender-specific patterns in coping skills, individual differences in cognitive appraisals within the stress and coping process are crucial to understanding how children and adolescents are best able to recover from the myriad of stressful experiences they are bound to face. Often, objectively stressful environmental demands are perceived as exceeding one's personal resources, and therefore stressful, based on initial appraisals of loss, threat, or challenge (Lazarus and Folkman, 1984). Young people are most likely to experience sadness in response to perceiving loss (e.g., the loss of a parent or sibling) and may respond with a variety of ways of coping. Coping responses may include accepting that the lost loved one is no longer around, seeking comfort or instrumental aid from other loved ones, or projecting their anger towards others and reacting with opposition towards expectations because of this loss. Additionally, young people may respond in both helpful and unhelpful ways when perceiving initial stressors as threatening (e.g., attempting to withdraw or distract themselves) or challenging (e.g., attempting to plan a successful response or bargain to find new and available options). Thus, these primary appraisals involve emotional reactions and initiate the coping process (Lazarus and Folkman, 1984).

However, coping is ongoing and multiple subsequent appraisals (often referred to as secondary appraisals or reappraisals) continue to shape how coping unfolds (Seiffge-Krenke et al., 2009; Zimmer-Gembeck and Skinner, 2016). For instance, perceptions of control (i.e., the degree to which young people experience a sense of mastery over stressful experiences) have been argued to shape successful coping (Skinner and Wellborn, 1994; Skinner and Zimmer-Gembeck, 2011) and have been related to other appraisals, such as beliefs about the contingencies available in the stressful experience (e.g., causal attributions) or beliefs about one's ability to be effective in responding to the stressful event (e.g., self-efficacy). All three of these appraisals, that is, perceptions of control, attributions, and coping efficacy are important correlates of ways of coping in childhood and adolescence (Chung et al., 2019; Zimmer-Gembeck and Skinner, 2015), but also appear to be central mechanisms that can help explain the effects of coping on adjustment, wellbeing, and development (Aldwin, 2011; Skinner and Zimmer-Gembeck, 2011; Zimmer-Gembeck and Skinner, 2016). For example, when examining several theoretical propositions of the mediating, bi-directional, and moderating role that coping self-efficacy plays in how young people cope with parental divorce and subsequent internalizing and externalizing symptoms, the most consistent finding across cross-sectional, longitudinal, and growth curve models has been that coping self-efficacy is crucial in explaining why more active coping (a composite of problem-focused and positive cognitive reframing ways of coping) reduces internalizing and externalizing problems (Sandler et al., 2000).

Summary

When taken together, empirical findings support the theoretical propositions from both the transactional theory of coping (Lazarus and Folkman, 1984) and the motivational theory of coping (Skinner and Wellborn, 1994) that stress appraisals, attributions and control beliefs are dynamically inter-related and shape the unfolding of coping efforts over time. Coping skills develop through this process and become crucial in fostering better adjustment and resilience to stressful events. For example, when children and adolescents feel efficacious and competent, and events are appropriately perceived as challenges that are controllable, coping skills like problem-solving, positive reappraisal, constructive expression of emotions, and seeking of support are more likely. Such coping responses, in turn, increase the probability that stressful events will be managed in a way that supports success, wellbeing, learning, and development. Conversely, when children and adolescents feel little efficacy and low competence or events are perceived as very threatening, coping responses more often include avoidance, self-blame, rumination, and opposition, which are linked to poorer adjustment and increased vulnerability across time. Although there is general support for these associations in studies of children and adolescents, it is possible that they are not universal across age periods and genders and may be modified by sociocultural background or context. For example, age, gender, sociocultural background, and context (e.g., living in a violent community or home, trauma exposure) could limit opportunities for enacting certain coping responses or prioritize certain coping responses over others. We encourage additional research on the examination of appraisals, ways of coping, and adjustment within a developmentally friendly framework that attends to diversity of background and context.

Coping flexibility as crucial to child and adolescent stress, coping, and wellbeing

While the benefits to wellbeing, engagement, learning, and development of adaptively coping with stress are becoming evident, there is now a consensus that it is common for children and adolescents to rely on multiple coping skills for a single stressful event and any single specific way of coping is not universally beneficial or detrimental (Bonanno and Burton, 2013; Skinner and Zimmer-Gembeck, 2016; Wadsworth, 2015; Zimmer-Gembeck et al., 2018). Thus, concluding that a child or adolescent has good coping skills implies that they use multiple strategies and flexibly deploy these coping strategies as and when they are needed. For example, primary reliance on problem-solving to cope may be a constructive response to a high academic workload, but may be detrimental or neutral when a stressor is not within personal control (e.g., parental divorce). Yet, such a multidimensional, contextually-embedded, person-centered view of coping skills, as well as the incorporation of coping flexibility, can be difficult to conceptualize and empirically examine (see Bonanno and Burton, 2013 for specific ways in which the general idea of flexibility is understood). Yet, the importance of understanding coping flexibility has led to some recent advancements (e.g., Babb et al., 2010; Bonanno and Burton, 2013; Kato, 2012; Zimmer-Gembeck et al., 2018).

The first advance has been in defining coping flexibility. Coping flexibility involves three interrelated processes. Firstly, coping flexibility has been defined as perceiving access to or reporting use of a greater repertoire, breadth, or variability of coping responses (e.g., Galatzer-Levy et al., 2012; Zimmer-Gembeck et al., 2018). Second, coping flexibility has been defined as matching coping responses to the specific demands of the stressful situation and avoiding rigidly reacting to stressful events with limited responses (e.g., Babb et al., 2010; Cheng, 2001; Zimmer-Gembeck et al., 2018). Most commonly this has been studied as matching the types of coping skills employed to the level of control appraised in the situation. Third, coping flexibility has been defined as the capacity to assess and evaluate whether initial coping responses have been successful, and if not, to flexibly adapt coping after re-evaluating personal and situational circumstances (Bonanno and Burton, 2013; Kato, 2012).

A second advancement has been research showing that coping flexibility is beneficial for personal adjustment in children and adolescents. For example, in one study, those youth who were able to flexibly vary and deploy two specific forms of coping in response to trauma experiences demonstrated the most positive adaptation across their tenure at university (Galatzer-Levy et al., 2012). In another study, youth across the breadth of adolescence who both perceived greater capacity to cope with stress using multiple responses and were better able to assess the fit between situational demands and coping responses also reported better

wellbeing across three studies (Zimmer-Gembeck et al., 2018). Additionally, above and beyond specific ways of coping with stress, older youth who perceived greater ability to evaluate and flexibly adapt their coping responses reported fewer depressive symptoms 12-weeks later (Kato, 2012). Therefore, coping flexibility regardless of its operationalization (i.e., as a repertoire of coping responses, as a capacity to match the demands of stressful events with responses, or as a capacity to evaluate and adapt to unsuccessful outcomes) has been associated with better adjustment and well-being among youth.

While there is much to be gained from including these three coping flexibility processes within conceptualizations of child and adolescent stress-coping, there is still a great deal of empirical work left to do in determining how this capacity can be most useful in promoting and enhancing physical and mental health. For instance, although there are varying ways of assessing this capacity stemming from the many conceptualizations within the extant literature, we could only locate one measure that has been developed specifically to assess child and adolescent flexible coping (i.e., the Self-Perceived Flexible Coping Scale; Zimmer-Gembeck et al., 2018). As such, a next generation of research on stress and coping in children and adolescents should more closely consider coping patterns and coping flexibility, and their development. For example, research on executive functioning would suggest that the capacity to be increasingly and intentionally flexible should coincide with developmental improvements in executive functioning (Skinner and Zimmer-Gembeck, 2016). Similarly, there has been little longitudinal research on coping flexibility, and particularly no study of changes in coping flexibility with age, although preliminary research has found when comparing age differences, that older youth typically report greater coping flexibility than younger youth (Babb et al., 2010; Zimmer-Gembeck et al., 2018). Another suggested line of investigation would be to examine flexibility across the arc of a stressful experience as it unfolds using experience sampling methods (Duvenage et al., 2019), to test whether daily executions of these processes aid immediate physical and mental wellbeing. With further examination of these still understudied processes, the field will be in a much better position to begin to consider how best to teach, promote and upskill children and adolescents in these flexibility processes as one more meaningful target to help protect young people against the deleterious effects of stress on emotional and physical adjustment.

Stress and coping applications: Prevention and intervention efforts

Stress appraisals and specific ways of coping, and the feelings of efficacy, competence, and control that support constructive appraisals and coping responses, should be central targets for helping to boost children's and adolescents' resilience or determining areas of risk. Although interventionists do not often draw explicitly from stress and coping theories when designing prevention and intervention programs or clinical treatments (Compas et al., 2014; Kendall et al., 2016), stress and coping researchers have pointed out that commonly used interventions may be improving youth's coping skills. For example, in a suite of studies providing family-based cognitive behavioral therapy (CBT) to children of depressed parents, see Compas et al. (2014) for greater detail, found that those children who were in the intervention condition demonstrated increases in secondary control coping skills (i.e., positive thinking and reappraisal, acceptance and distraction) compared to those in the control conditions and that changes in these ways of coping accounted for decreases in children's internalizing and externalizing symptoms.

As other examples, two trials of CBT interventions for anxious youth have found that efficacy, appraisals, and coping skills improve and serve as mechanisms for symptom improvement. In the first trial, appraisals of control and coping skills of problem-solving, cognitive re-structuring, distraction and avoidance (but not support-seeking) improved and accounted for symptom reduction (Hogendoorn et al., 2014). Interestingly, examination of changes provided some information about the time course of effects: Increases in perceived control both preceded and followed decreases in anxiety symptoms whereas increases in problem-solving, cognitive re-structuring, and distraction preceded decreases in anxiety symptoms, and reduction of avoidant coping only occurred following decreases in anxiety symptoms. In a second study comparing CBT to selective serotonin-reuptake inhibitors (SSRI), CBT + SSRI, and placebo, increases in self-efficacy fully accounted for symptom reduction in the CBT and SSRI conditions (and partially in the combined CBT + SSRI condition) compared to the placebo condition (Kendall et al., 2016). Here, support was found for the increasing importance of feeling more efficacious in coping with anxiety-provoking situations (vs. the decrease per se of a specific way of coping with such situations), even across conditions in which medication management was the active course of treatment. These findings illustrate the transactional nature of appraisals, ways of coping, and adjustment, showing differing patterns of interaction (depending on the specific element examined) over the course of treatment and confirms the notion that coping operates as an interactional process within a multi-level conceptualization that functions on multiple time scales (see Fig. 1), but applied within an active intervention.

Similar findings showing interventions as a catalyst for positive adjustment via appraisals and coping skills have emerged for children who have experienced significant stressful events. For example, in a study of children experiencing parental divorce, both active coping and coping self-efficacy increased over the course of treatment, and coping self-efficacy directly predicted symptom reduction at post-treatment (Sandler et al., 2000). Further, self-efficacy partially accounted for the associations of active coping improvements with symptom reduction. In a study of at-risk youth who were exposed to trauma, trauma-focused CBT (TF-CBT), a well-established intervention for improving overall functioning for youth exposed to trauma (Cohen et al., 2006; Dorsey et al., 2017), was investigated to determine whether appraisals and coping skills might explain positive outcomes. TF-CBT involves a specific focus on young people's interpretation (i.e., appraisals) of traumatic events, and is designed to enhance specific coping skills (e.g., relaxation training, seeking appropriate social support from safe caregivers, and reappraising biased trauma-related cognitions). TF-CBT has proven more effective than attentional control, standard community care, and waitlist control conditions in reducing trauma symptoms, depression, and problem behaviors post-intervention, with further evidence of improvement

demonstrated across a range of studies at 12-months post intervention (Cary and McMillen, 2012). Collectively, the efforts in addressing stress appraisals and coping skills within widely used evidence-based interventions and treatments for children and adolescents, and the evidence that improvements in efficacy, appraisals, and coping skills are some of the critical mechanisms responsible for positive adjustment outcomes from treatment, underscores the importance of coping skills for resilience and risk.

Conclusion

A developmentally-friendly theory of coping describes it as action regulation under stress—encompassing how people (of all ages) mobilize, guide, manage, energize, and direct behavior, emotion, and orientation, or how they fail to do so in response to stressful events. Thus, children and adolescents draw upon a wide variety of coping skills to accomplish this task in the face of stress, and competence in coping has implications for adjustment and wellbeing, whether considered individually, as broader categories of ways of coping, or in combination with other beliefs and competencies. However, coping skill acquisition, deployment, and maybe even flexibility, change with age, showing increasing use of cognition and more understanding of how to accurately appraise and respond to stressful events even into late adolescence. Coping is also critical to developmental progress and outcomes, providing a solid foundation on which resilience is built either through naturally occurring experiences and recovery or through interventions and treatments.

References

- Aldwin C (2011) Stress and coping across the lifespan. In: Folkman S and Nathan PE (eds.) *The Oxford Handbook of Health, Stress and Coping*, pp. 15–34. New York: Oxford University Press.
- Babb KA, Levine LJ, and Arseneault JM (2010) Shifting gears: Coping flexibility in children with and without ADHD. *International Journal of Behavioral Development* 34: 10–23.
- Bonanno GA and Burton CL (2013) Regulatory flexibility: An individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science* 8: 591–612.
- Cary CE and McMillen JC (2012) The data behind the dissemination: A systematic review of trauma-focused cognitive behavioral therapy for use with children and youth. *Children and Youth Services Review* 34: 748–757.
- Cheng C (2001) Assessing coping flexibility in real-life and laboratory settings: A multimethod approach. *Journal of Personality and Social Psychology* 80: 814–833.
- Chung S, Zhou Q, Eisenberg N, and Wolchik S (2019) Threat appraisals and coping responses to stressors: Links to Chinese children's behavioral problems and social competence. *Journal of Early Adolescence* 39: 280–305.
- Cohen JA, Mannarino AP, and Deblinger E (2006) *Treating Trauma and Traumatic Grief in Children and Adolescents*. New York, NY: Guilford.
- Compas BE, Connor-Smith JK, Saltzman H, Thomsen AH, and Wadsworth ME (2001) Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin* 127: 87–127.
- Compas BE, Jaser SS, Dunn MJ, and Rodriguez EM (2012) Coping with chronic illness in childhood and adolescence. *Annual Review of Clinical Psychology* 8: 455–480.
- Compas BE, Jaser SS, Dunbar JP, Watson KH, Bettis AH, Gruhn MA, and Williams EK (2014) Coping and emotion regulation from childhood to early adulthood: Points of convergence and divergence. *Australian Journal of Psychology* 66: 71–81.
- Compas BE, Jaser SS, Bettis AH, Watson KH, Gruhn MA, Dunbar JP, Williams E, and Thigpen JC (2017) Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychological Bulletin* 143: 939–991.
- Derryberry D, Reed MA, and Pilkenton-Taylor C (2003) Temperament and coping: Advantages of an individual differences perspective. *Development and Psychopathology* 15: 1049–1066.
- Dorsey S, McLaughlin KA, Kerns SEU, Harrison JP, Lambert HK, Briggs EC, Revillion Cox J, and Amaya-Jackson L (2017) Evidence base update for psychosocial treatment for children and adolescents exposed to traumatic events. *Journal of Clinical Child & Adolescent Psychology* 46: 303–330.
- Duvenage M, Uink BN, Zimmer-Gembeck MJ, Barber BL, Donovan CL, and Modecki KL (2019) Ambulatory assessment of adolescent coping: It's a complicated process. *Journal of Research on Adolescence* 29: 578–594.
- Eisenberg N, Fabes RA, and Guthrie IK (1997) Coping with stress: The roles of regulation and development. In: Wolchik SA and Sandler IN (eds.) *Handbook of Children's Coping: Linking Theory and Intervention*, pp. 41–70. New York: Plenum.
- Fields L and Prinz RJ (1997) Coping and adjustment during childhood and adolescence. *Clinical Psychology Review* 17: 937–976.
- Flannery KM, Vannucci A, and Ohannessian CM (2018) Using time-varying effect modeling to examine age-varying gender differences in coping throughout adolescence and emerging adulthood. *Journal of Adolescent Health* 62: S27–S34.
- Galatzer-Levy IR, Burton CL, and Bonanno GA (2012) Coping flexibility, potentially traumatic life events, and resilience: A prospective study of college study adjustment. *Journal of Social and Clinical Psychology* 31: 542–567.
- Gardner AA, Hawes T, Zimmer-Gembeck MJ, Webb HJ, Waters AM, and Nesdale D (2021) Emotion regulation and support from others: Buffering of body dysmorphic symptoms in adolescent and young adult men but not women. *Journal of Adolescence* 86: 1–10.
- Hogendoorn SM, Prins PJM, Boer F, Vervoort L, Wolters LH, Moorlag H, Nauta MH, Garst H, Hartmont CA, and de Haan E (2014) Mediators of cognitive behavioral therapy for anxiety-disordered children and adolescents: Cognition, perceived control, and coping. *Journal of Clinical Child & Adolescent Psychology* 43: 486–500.
- John OP and Gross JJ (2004) Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality* 72: 1301–1334.
- Kato T (2012) Development of the coping flexibility scale: Evidence for the coping flexibility hypothesis. *Journal of Counseling Psychology* 59: 262–273.
- Kendall PC, Cummings CM, Villabø MA, Narayanan MK, Treadwell K, Birmaher B, Compton S, Piacentini J, Sherrill J, Walkup J, and Gosch E (2016) Mediators of change in the child/adolescent anxiety multimodal treatment study. *Journal of Consulting and Clinical Psychology* 84: 1–14. <https://doi.org/10.1037/a0039773>.
- Lazarus RS and Folkman S (1984) *Stress, Appraisal, and Coping*. New York: Springer.
- Massey EK, Garnefski N, Gebhardt WA, and van der Leeden R (2011) A daily diary study on the independent and interactive effects of headache and self-regulatory factors on daily affect among adolescents. *British Journal of Health Psychology* 16: 288–299.
- Sandler IN, Tein J-Y, Mehta P, Wolchik S, and Ayers T (2000) Coping efficacy and psychological problems of children of divorce. *Child Development* 71: 1099–1118.
- Seiffge-Krenke I (2004) Adaptive and maladaptive coping styles: Does intervention change anything? *European Journal of Developmental Psychology* 1: 367–382.
- Seiffge-Krenke I, Aunola K, and Nurmi J-E (2009) Changes in stress perception and coping during adolescence: The role of situational and personal factors. *Child Development* 80: 259–279.
- Skinner EA and Saxon EA (2019) The development of academic coping in children and youth: A comprehensive review and critique. *Developmental Review* 53: 100870.

- Skinner EA and Wellborn JG (1994) Coping during childhood and adolescence: A motivational perspective. In: Featherman D, Lerner R, and Perlmutter M (eds.) *Life-Span Development and Behavior*, pp. 91–133. Hillsdale, N. J: Erlbaum.
- Skinner EA and Zimmer-Gembeck MJ (2007) The development of coping. *Annual Review of Psychology* 58: 119–144.
- Skinner EA and Zimmer-Gembeck MJ (2009) Challenges to the developmental study of coping. In: Skinner EA and Zimmer-Gembeck MJ (eds.) *Coping and the Development of Regulation. New Directions in Child and Adolescent Development*, pp. 5–17. San Francisco: Jossey-Bass. Issue 124.
- Skinner EA and Zimmer-Gembeck MJ (2011) Perceived control and the development of coping. In: Folkman S (ed.) *The Oxford Handbook of Health, Stress and Coping*, pp. 35–62. New York: Oxford University Press. Nathan, P. E. (Series Ed.).
- Skinner EA and Zimmer-Gembeck MJ (2016) *The Development of Coping From Birth to Emerging Adulthood: Neurophysiological and Social Underpinnings, Qualitative Shifts, and Differential Pathways Towards Psychopathology and Resilience*. New York: Springer.
- Skinner EA, Edge K, Altman J, and Sherwood H (2003) Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin* 129: 216–269.
- Smith JM and Alloy LB (2009) A roadmap to rumination: A review of the definition, assessment, and conceptualization of this multifaceted construct. *Clinical Psychology Review* 29: 116–128.
- Stone LB, Mennies RJ, Waller JM, Ladouceur CD, Forbes EK, Ryan ND, Dahl RE, and Silk JS (2019) Help me feel better! Ecological momentary assessment of anxious youths' emotion regulation with parents and peers. *Journal of Abnormal Child Psychology* 47: 313–324.
- Wadsworth ME (2015) Development of maladaptive coping: A functional adaptation to chronic, uncontrollable stress. *Child Development Perspectives* 9: 96–100.
- Zimmer-Gembeck MJ (2015) Emotional sensitivity before and after coping with rejection: A longitudinal study. *Journal of Applied Developmental Psychology* 41: 28–37.
- Zimmer-Gembeck MJ and Locke EM (2007) The socialization of adolescent coping behaviours: Relationships with families and teachers. *Journal of Adolescence* 30: 1–16.
- Zimmer-Gembeck MJ and Skinner EA (2011) The development of coping across childhood and adolescence: An integrative review and critique of research. *International Journal of Behavioral Development* 35: 1–17.
- Zimmer-Gembeck MJ and Skinner EA (2015) Adolescent vulnerability and the distress of rejection: Associations of adjustment problems and gender with control, emotions, and coping. *Journal of Adolescence* 45: 149–159.
- Zimmer-Gembeck MJ and Skinner EA (2016) The development of coping and regulation: Implications for psychopathology and resilience. In: Cicchetti D (ed.) *Developmental Psychopathology*. 3rd edn, vol. 4, pp. 485–544. New York, NY: Wiley.
- Zimmer-Gembeck MJ, van Petegem S, and Skinner EA (2016) Emotion, controllability and orientation towards stress as correlates of children's coping with interpersonal stress. *Motivation and Emotion* 40: 178–191.
- Zimmer-Gembeck MJ, Skinner EA, Modecki KL, Webb HJ, Gardner AA, Hawes T, and Rapee RM (2018) The self-perception of flexible coping with stress: A new measure and relations with emotional adjustment. *Cogent Psychology* 5: 1–21.