

# Responding to Adverse Childhood Experiences: The Science of Hope as a Framework for Action

**Chan M. Hellman**  
**Angela B. Pharris**  
**Ricky T. Muñoz**

**Abstract:** *Research has long supported that Adverse Childhood Experiences (ACEs) are linked with reductions in well-being across the lifespan. However, less is known about the best practices for intervening with ACE to buffer the long-term negative effects beyond clinical settings. The current paper proposes that the positive psychology construct of hope offers guidance for understanding and responding to ACEs. We propose a theoretical model for developing a hope-centered and trauma-informed framework for responding to the deleterious effects for ACEs. The paper closes by calling on social work researchers, educators, and those in practice to learn more about the relationship between ACEs and hope and use that knowledge to help us better assist ACE survivors.*

**Keywords:** Hope Theory, Adverse Childhood Experiences, resilience, trauma-informed practice

In 1998 Dr. Vincent Felitti and Dr. Robert Anda published findings from their seminal Adverse Childhood Experiences Study. As one of the first studies to empirically establish a dose-response relationship between childhood trauma and long-term, adverse effects on health and wellness, the study was pioneering. Since then, many studies have replicated the same dose-response impact of ACEs on long-term health risk and disease conditions (e.g., depression, ischemic heart disease, cancer, chronic lung disease, and liver disease). Yet, while the negative impact of ACEs was established, uncertainty remains as to how best to assist ACE survivors. Our paper suggests that the discipline of positive psychology, particularly the construct of hope (Snyder, 1994), provides insight into the mechanisms by which ACEs produce long-term adverse effects and serves as a theoretical foundation for building better interventions and best practices for ACE survivors.

## The Lasting Impact of ACEs

The initial ACE study introduced a 10-item Adverse Childhood Experiences (ACEs) scale, which allowed for ease of measurement of individual differences in childhood trauma experiences (Felitti et al., 1998). Using the newly developed ACE scale, Felitti and colleagues (1998) investigated the association of childhood exposure to adverse experiences on health risk behaviors and disease conditions within a large sample of adults. At least three seminal findings emerged from the original ACE study. First is the prevalence of childhood adversity in adults, with approximately two-thirds of study participants reporting at least one adverse event. Second, this initial study showed that those exposed to one category of child adversity were likely to have been exposed to at least one other adversity. That is, exposure to childhood adversities is likely to co-occur

---

Chan M. Hellman, PhD, Professor, Angela B. Pharris, PhD, MSW, Assistant Professor, and Ricky T. Muñoz, JD, MSW, Associate Professor, Anne & Henry Zarrow School of Social Work, University of Oklahoma, Tulsa, OK.

Copyright © 2022 Authors, Vol. 22 No. 3 (Fall 2022), 1066-1083, DOI: 10.18060/25632



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

across the 10 events within the abuse, neglect, and dysfunctional household categories. Finally, Felitti et al. (1998) showed a dosage effect of childhood exposure to adversities on long-term health risk and disease conditions that include the leading causes of adult death in the U.S. (e.g., ischemic heart disease, cancer, chronic lung disease, and liver disease).

The original findings from the ACE study demonstrated that exposure to certain types of childhood adversity leads to significant health consequences throughout the lifespan. In the decades following the original study (Felitti et al., 1998), research has continued to link ACEs to various negative health outcomes and other indicators of well-being. Health outcomes such as obesity, diabetes, sexually transmitted infections, suicide attempts, heart disease, cancer, and other chronic health conditions are linked to ACEs (Centers for Disease Control and Prevention [CDC], 2019). Furthermore, research has revealed that ACEs are associated with an increased engagement in risk-taking behaviors such as smoking, substance use and abuse, risky sexual practices, suicidality, self-injury, and encounters with the criminal justice system (CDC, 2019; Layne et al., 2014). These risk-taking behaviors may reflect an individual's attempt at short-term coping which evolves into long-term consequences to well-being (Felitti, 2003). The CDC (2019) reported that over 40 known outcomes have a graded dose-response (i.e., as the number of ACEs increases, the risk of adverse health outcomes increases) [CDC, 2019]. ACEs have also been linked to other critical social indicators of well-being, such as an impact on education, employment, income, and other essential activities of adulthood often associated with stability (CDC, 2019; Metzler et al., 2016). The magnitude of the lasting impact of ACEs has led the President of the American Academy of Pediatrics, Bob Block, to state that adverse childhood experiences is the single greatest unaddressed public health issue facing our nation (Kennedy et al., 2011).

### **Increased Professional and Public Awareness of ACEs**

The extensive research base linking ACEs to adverse outcomes across the lifespan has led to widespread awareness initiatives of ACEs among helping professionals. Over the last several years, there has also been a dramatic increase in local, state, and national efforts to raise awareness of the impact of ACEs. This includes identifying programs and interventions to reduce their negative effects. For example, organizations such as the CDC coordinate and report on national and state-level screenings for adverse childhood experiences using the Behavioral Risk Factor Surveillance System (BRFSS, Dube, 2018). The Substance Abuse and Mental Health Services Administration (SAMHSA) funds the National Traumatic Child Stress Network (NTCSN) to direct access to trauma-informed systems and programs. Additionally, the Administration for Children and Families (Children's Bureau, n.d.), U.S Department of Justice (2019), and many other organizations have prioritized responses to ACEs and provided resources to develop and evaluate interventions aimed at primary, secondary, or tertiary prevention of ACEs (CDC, 2019). As awareness of ACEs has grown, policymakers, legal systems, and community leaders have emerged to seek more comprehensive system-based solutions and interventions to adversity. Efforts have begun to expand individual and family-level trauma-informed prevention and intervention programs to address the negative impact of ACEs.

While the ACEs research is compelling and wide-reaching, some critiques and challenges exist. The general use of ACEs may promote misuse and could be stigmatizing and harmful (Kelly-Irving & Delpierre, 2019). There are cautions against using the ACEs categories as diagnostic criteria or assessment tools, even when the goal is to generate protective measures (Anda et al., 2020; Finkelhor, 2018). Having an individual take an ACE score assessment poses some ethical considerations. Anda and colleagues (2020) point out that the ACEs assessment was not intended as a measure of clinical risk but rather a set of measures used in research and health surveillance studies. Additionally, the ACEs study has been criticized for excluding other significant stressors and adversity that can occur during childhood and throughout life. Notable is the exclusion of cultural, structural, and systemic oppression and the impact of socio-economic factors that may exasperate the already harmful effects of ACEs (Wade et al., 2014).

### **Trauma-Informed Care**

Recognizing the need to provide better support for ACE survivors, service providers have developed an approach known as trauma-informed care (SAMHSA, 2014). Perhaps the most widely used formal description of trauma-informed care is the one adopted by SAMHSA, which defines trauma-informed care as an understanding of the frequency and effects of early adversity on psychological functioning across the life span. Thus, a trauma-informed approach responds with compassion and empathy and seeks to intentionally develop systems to be safe places, empower and allow survivors a voice, and nurtures collaboration rather than approaches that may inadvertently re-traumatize survivors (SAMHSA, 2014).

Trauma-informed care is distinct from trauma-specific clinical interventions. Trauma-informed care is rooted in practices that encourage a community and professional responses to children and families affected with trauma as they enter service systems. However, the value of increasing awareness alone and its benefit to children and families is still emerging in the research literature (Berliner & Kolko, 2016). The framework for trauma-informed care provided by SAMHSA of safety, trustworthiness, collaboration, and empowerment are standards of quality care, but how do organizations and providers know they are creating a trauma-informed-care environment? One strategy has been to measure knowledge improvements among providers gained from training (Bendall et al., 2021). Likewise, understanding how the systems change as a result of trauma-informed care system adjustments can be a useful approach, such as examining how casework is managed (Lang et al., 2016) or enhancing client screenings, include trauma-informed assessments (Bartlett et al., 2018), or evidence of organizational change (Bunting et al., 2019). However, additional strategies that deploy theoretically-driven and evidence-supported approaches that can be implemented and evaluated for effectiveness are still needed.

### **Deficiencies of the Trauma-Informed Approach**

Much work remains to better define trauma-informed care, as the term remains a concept that has been defined in many ways, making it difficult to evaluate. Little is known about how the various initiatives described as trauma-informed care and related trauma-

informed interventions improve outcomes for children and families (Hanson & Lang, 2016). Most trauma-focused interventions address some of the symptoms and behaviors associated with ACEs, such as depression, emotional dysregulation, information processing, or risk-taking behavior. While there is some evidence that existing approaches to counseling and therapy (e.g., Cognitive Behavior Therapy, Eye Movement Desensitization and Reprocessing therapy, Child-Parent Psychotherapy, Attachment, Self-Regulation, and Competency) provide some assistance for survivors (Menschner & Maul, 2016), much remains to be understood about how to best intervene to assist ACE survivors (Finkelhor, 2018; Hanson & Lang, 2016). Hindering those efforts is the lack of consistent definition and framework for trauma-informed care.

Moreover, most interventions rely heavily on services offered by health and behavioral health professionals, which are not readily accessible to most children or adults with multiple exposures to adversity and trauma (Mental Health America, 2021). Additionally, children's adversities are deeply rooted in systemic issues (Larkin et al., 2012). Therefore, comprehensive interventions that consider trauma also need to address the structural and systemic changes that prevent childhood exposure to trauma.

Consequently, expanding evidence-based prevention and intervention for ACE survivors is the essential next step in dealing with the impact of ACEs, especially considering the magnitude of the problem (Dube, 2018). Moreover, while helpful in moving the field toward better awareness, the trauma-informed care paradigm is not a fully developed theoretical model for interventions. Rather trauma-informed care is a way of understanding current coping circumstances in the context of day-to-day interactions with helping professionals. As a result, trauma-informed approaches are being adopted in non-clinical settings such as schools, law enforcement systems, community libraries, parks programs, places of worship, or any other place where individuals and families interact.

### **Moving Beyond Identification of Risk to Improving Well-Being**

While the trauma-informed approach is important for understanding, empathy, and constructing meaningful clinical treatment plans, interventions that aim to buffer the long-term impact of adversity and trauma are scarce in non-clinical settings (e.g., schools, households, child welfare). Few theoretically-driven models can simultaneously guide interventions at the individual, family, and community levels. Thus, trauma-informed care needs to move beyond the current approaches toward evidence-driven models that develop and sustain systems to act in a way that buffers against the negative impact of ACEs. The strategies are preferable if they have a balanced perspective of reducing risk while supporting the survivor in addressing the effects of trauma and deploying a framework that directs the survivor's attention toward a future expectation of well-being. Such a theoretical framework must be accessible across multidisciplinary teams to be practical and valuable, providing an easily understandable common language across diverse disciplines to deploy a coordinated community response.

Scholars, advocates, public health officials, and policymakers alike have shifted attention to strategies that could facilitate protective measures to promote well-being, even in the face of adversity (Sege & Browne, 2017). Strategies such as those that focus on

increasing strengths in parent-child relationships and other strategies that identify and support positive childhood experiences within a community show significant promise (Burstein et al., 2021).

Hope theory provides this much-needed framework as it is both conceptually parsimonious and has robust research-based evidence in many areas impacted by adverse childhood experiences. In this paper, the authors outline Hope Theory (Snyder, 2000) as a unifying conceptual and empirically-based framework to guide social workers, clinicians, community leaders, researchers, and policymakers to provide a coordinated response to the ACE epidemic (Dube, 2018). We propose a hope-centered, trauma-informed practice approach to assist ACE survivors in coping with the lasting effects of trauma and promote individual, family, and community well-being.

### **Hope Theory**

Hope theory is associated with a segment of modern psychological research known as positive psychology (Seligman & Csikszentmihalyi, 2000). Like ACEs, positive psychology was born approximately 20 years ago out of the recognition that psychological research has historically centered on understanding and reducing pathology. While this research led to immense gains in treating pathology, positive psychologists recognize the traditional research focus is myopic, leading to a limited understanding of the complete human condition. As a result, positive psychology expanded existing research to study well-being, virtue, resilience, and a meaning-oriented focus on what makes the good life. Such research has helped advance the understanding of positive psychological states. Since positive psychology is the flip side of traditional research into pathology, positive psychology research has also led to a greater understanding of human functioning. From positive psychology studies, one variable has demonstrated a consistent and significant impact of advancing our understanding of the human condition (i.e., hope; Snyder et al., 1991).

Hope has been recognized as a central variable of the positive psychology family. Some have described (Peterson & Seligman, 2004, p. 577) hope as a “Velcro construct” because it is positively correlated with so many other character strengths associated with well-being. The most well-developed and researched theories of hope were developed by Snyder (2000), who held that hope is a cognitive process centered on future expectations for goal attainment.

In this context, hope is comprised of three main tenants: goals, pathways, and agency. *Goals* represent the cornerstone of hope theory as the cognitive endpoint to planned behavior (Snyder, 2000, 2002). Goals can exist in the short or long-term but must be of sufficient value to motivate attention and action. Behavior motivated by hope requires the goal to be perceived as potentially attainable, clearly defined, and possess identifiable criteria for measured success.

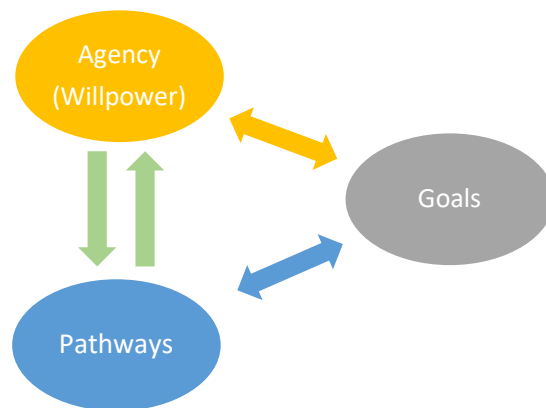
To achieve the goal, one must conceive of one or more viable pathways to goal attainment. *Pathways* thinking represent a mental road map allowing one to consider strategies that will lead to the desired outcome. Viable pathways are within the individual's

capacity to pursue and are developed with a future orientation of successful goal attainment. In this manner, the hopeful individual can consider potential barriers and identify workable solutions or possess the capacity to find alternative pathways when needed. Hopeful individuals can generate multiple alternative pathways toward their goal pursuits even in the face of significant barriers. Comparatively, individuals who have lower hope have trouble managing barriers and will have trouble developing alternative pathways (Snyder, 2002).

*Agency* represents goal-directed motivational thinking for hope theory. Agency, or agentic thinking, refers to the capacity to exert mental energy (willpower) to pursue the pathway. Hopeful individuals exhibit self-control, regulating their thoughts, feelings, and behaviors during goal pursuits, especially while experiencing stress and adversity (Gailliot & Baumeister, 2007; Valle et al., 2006). Individuals with lower hope are more likely to experience difficulty regulating their thoughts and self-control, a condition exasperated by the trauma and adversity associated with ACEs.

Pathways and agency are reciprocal, iteratively influencing each other. Achieved successes in pursuing pathways toward a goal fuel motivation and desire (agency) to sustain plans. Likewise, energized and intentional thinking about a goal encourages planning and strategizing how to achieve the goal (pathways thinking). Finally, successful goal pursuits result in an increased tendency to set and pursue more challenging goals in the future. In this context, hope begets hope. As both pathways and agency are required, any deficit in this cognitive process (goal setting, agency, pathways) will result in lower hope. It follows that an individual experiencing lower hope recognizes their deficiency in pathways and/or agency when presented with a goal reacting with negativity and focusing on failure (e.g., the “I can’t attitude”).

Figure 1. *Snyder's Hope Theory*



The benefits of hope are associated with various indicators of well-being, including life satisfaction, affect regulation, meaning in life, and decreased depression and suicidal ideation (Cheavens et al., 2005; Park et al., 2004). While research supports that hope is an integral part of the healthy human condition, theory and accompanying research suggests

hope is particularly important for those coping with severe adversity associated with adverse childhood experiences and toxic stress (Baxter et al., 2017; Snyder, 2000). For instance, among survivors of intimate partner violence, hope is associated with an increased sense of empowerment (Muñoz, Brady et al., 2017) and life satisfaction (Muñoz, Hellman et al., 2017). Among individuals experiencing homelessness, hope has been linked to less physical pain and greater feelings of health (Muñoz et al., 2016). Among children in foster care, hope has positively correlated with self-control, grit, and curiosity (Hellman & Gwinn, 2017).

Furthermore, hope has been shown to operate as a coping resource buffering the relationship between parental stress and well-being for at-risk parents for potential child maltreatment (Hellman et al., 2018). Hope has been identified as one of the guiding principles of recovery (SAMHSA, 2012). Finally, hope has also been shown to promote adaptive coping and adjustment to stressful posttraumatic experiences (Chang & DeSimone, 2001), including trauma-exposed veterans receiving mental health care (Hassija et al., 2011). Considering the importance hope has demonstrated in populations facing adversity, it follows that hope theory holds promise as a tool to help individuals, families, and communities better understand and support ACE survivors.

### **Low Hope and Trauma**

Snyder (1994) theorized that higher hope individuals must focus their attention on setting goals and selecting pathways to those goals. Individuals with higher hope can focus their attention on those goals and devote the energy to pursue identified pathways. However, trauma negatively impacts attention and focus and affects how much attention or energy a person can devote to their goal pursuits. Therefore, Snyder (1994) also theorized that low hope is associated with decreased ability and time to devote attention to goal pursuits as a survival mindset results in spending considerable time responding to surrounding people and events, leaving little willpower to concentrate on important goals. The loss of hope, or lower hope, is a process that involves moving from some degree of hopeful thinking to anger when barriers begin to block pathways. If unable to overcome those barriers, we experience despair as goals become significantly blocked or pathways become too burdensome to pursue. Finally, one reaches the eventual ending point of apathy towards goals (Snyder, 1994).

Snyder (1994) offered a hope theory-based explanation for the link between trauma experiences and lower hope. Snyder believed that trauma causes lower hope because trauma experiences can be relived in the mind (e.g., rumination). The trauma appears to block goal-directed thinking for important life goals, incapacitates the person across a range of goals, and endures over time. Research has shown that ACEs predict lower hope via rumination (Muñoz & Hanks, 2019). Rumination is detrimental to hope because rumination involves regularly filling the mind with intrusive thoughts and images of past traumas (Long & Gallagher, 2018). As a result, ACE survivors, as they experience rumination, may have fewer cognitive resources to identify and navigate pathways to goals, thereby hampering hope. Research on trauma, PTSD, and ACEs demonstrates that survivors often have intrusive memories of the traumatic events; therefore, trauma

memories become attention robbers, which take attention away from developing pathways to future goals (Hellman et al., 2018; Muñoz & Hanks, 2019).

The second avenue of research that explains lower hope draws from exploring the link between ACEs and interpersonal relationships into adulthood. Hope theory borrows from attachment theory by noting that an individual's hope arises in the context of early childhood relationships with caregivers (Snyder, 1994). Individuals who experience supportive relationships with caregivers develop high hope (Snyder, 1994). In contrast, ACE survivors, by definition, have experienced or witnessed some form(s) of maltreatment from parents and/or early caregivers. As a result, individuals can develop a distrust of others associated with insecure attachment styles (Snyder, 1994). Because relationships with others are important pathways to our goals, the resulting social isolation that often comes from ACEs can adversely impact hope (Bethell et al., 2019; Snyder, 1994; Sympson, 2000). Emerging research supports Snyder's views on the link between trauma and lower hope, as ACEs have been empirically shown to be a driver of lower hope mediated by insecure attachment style (Muñoz et al., 2022). Therefore, improving an ACE survivor's meaningful connection to others provides the environment to increase hopeful thinking. Ensuring children and their families have ample opportunities for supportive relationships, that children can grow and learn in stable and safe environments, and ensuring children have opportunities for connections to others have all been found to promote positive outcomes for children with ACEs (Sege & Browne, 2017). These are often the types of relationships that children and youth have access to in non-clinical settings such as those with educators in schools, supportive peers, mentors, coaches, after-school programs, and a host of other resources often found in communities.

A growing body of research suggests hope is an important psychological trait in coping with ACEs (Baxter et al., 2017). For instance, hope has demonstrated stronger predictive power for psychological flourishing among ACEs survivors than resilience (Muñoz et al., 2020). Hope theory also has value in illuminating the mechanisms linking ACEs to well-being reductions later in life. Understanding the mechanisms between ACEs and well-being across the life span is essential if we wish to answer the call to establish best practices for helping ACE survivors (Finkelhor, 2018).

Hope theorists have acknowledged a close relationship between hope and resilience (Ong et al., 2018; Snyder, 2000). However, research supports the distinctiveness of hope from resilience (Muñoz et al., 2020). While resilience contributes to well-being, there are concerns about the usefulness of the construct (Luthar et al., 2000; van Breda, 2018). Resilience as a construct lacks uniformity in the existing literature, sometimes described as a trait, a process, an outcome, or a version of all three (Southwick et al., 2014).

Additionally, the construct of resiliency has been described as including other established constructs such as self-efficacy, humor, patience, optimism, or grit (Connor & Davidson, 2003). At the core, resilience involves the ability to bounce back after encountering adversity (Smith et al., 2008; Southwick et al., 2014), and one's ability to recover from adversity is no doubt an important characteristic to potentially mitigating the impact of trauma (McFadden et al., 2015). The concept of hope and its positive outcomes have been well-established in the literature. As such, it lends itself to the development of



interventions to promote a future expectation of achieving goals with individuals, families, communities, organizations, and policymakers.

### **Hope as a Framework for Action on ACEs**

Although the research on hope in the context of ACEs remains relatively new, theory and emerging empirical evidence suggest hope offers significant potential as a theoretically driven framework to provide structure for interventions to respond to ACEs' survivors. The simplicity of hope theory lends itself to a trauma-informed and hope-centered framework to assist survivors of childhood trauma in building pathways for the capacity to thrive. This theory is bolstered by research demonstrating that hope is malleable and can be measured and nurtured via intervention (Cheavens & Guter, 2018; Duncan et al., 2022; Pharris et al., 2022; Sulimani-Aidan et al., 2019).

Hope theory could assist in responding to ACEs in various clinical and community (non-clinical) settings. Hope theory-based interventions have already been developed that could form a foundation for future hope-centered interventions for ACE survivors (Cheavens & Guter, 2018). There is emerging research on the positive impact of programs that focus on increasing hope. Studies have examined the role of hope in single-session therapy, solution-focused brief therapy, and narrative therapies (Courtnage, 2020). Studies have linked increased hope to improved client engagement and program participation (Counts et al., 2017) and demonstrated that hope is malleable even in brief interactions among college students (Feldman & Dreher, 2012). A five-week school-based program designed to enhance hope by helping children use the core components of hope (goal setting, pathways, and agentic thinking) had a positive association to increased hope, life satisfaction, and self-worth among middle school students (Marques et al., 2009). A 12-week hope-based school intervention had promising results among adolescents who increased hopeful thinking, resilience, coping skills, and seeking social support (Kirby et al., 2021). Likewise, studies of Camp Hope, a children's camp explicitly focused on children and youth who have significant exposure to ACEs, showed promising results of improving hope as a coping resource among campers (Hellman & Gwinn, 2017).

Programs that aim to improve a survivor's well-being could use the science of hope as a guiding framework or approach. For example, mentor and peer support programs are designed from the evidence that meaningful connections to a caring adult have a positive effect and even proven helpful as a protective factor for children, youth, and adults exposed to trauma (Zinn et al., 2017). Because hope is a cognitive process and can be modeled, nurtured, and enhanced by others, hope provides a possible way of approaching a mentor relationship and building meaningful connections. Such interventions use hope theory to shape intervention modalities and track outcomes (Cheavens & Guter, 2018). Using hope-based interventions as a foundation, further research into hope-informed interventions explicitly developed for ACE survivors may yield beneficial results.

### **Hope in Diverse Groups**

While the concepts of goal-setting, pathways, and willpower have consistently been defined, the nature of our goals, the available pathways, and the driving forces of motivation to pursue those goals are unique and may be constrained by other characteristics such as one's socioeconomic status, race and ethnicity. Chang and Banks (2007) examined the convergence or divergence of hope in the context of different racial/ethnic groups in measures of agentic and pathways thinking, examining the contention that hope may be lower in certain racial/ethnic populations. Their findings affirm that the function of hope is similar between groups.

As goals are the cornerstone of hope, the diversity of the human experience would suggest that an array of goals are possible and, in part, framed by our cultural characteristics, experiences, and preferences (Edwards & McClintock, 2018). Similarly, the pathways and obstacles one will encounter in pursuit of their desired future will be different and shaped by our socioeconomic status and access to culturally relevant services (Edwards & McClintock, 2018). In the same notion, maintaining motivation to pursue those goals are deeply impacted by one's environment and will likely look different for each individual. Identifying culturally relevant strengths as resources, and those strengths often emerge as pathways to goal pursuit.

Oppression and discrimination undoubtedly impact the type of goals one sets and pursues. Power, and the effort to control power from the dominant group, is often focused on blocking certain groups of people from their goal pursuits. And there is no doubt that oppression and discrimination control, limit, or constrain the types of pathways one has access to. But research evidence does not suggest that members of oppressed or marginalized groups do not have and sustain hopeful thinking (Snyder, 1994). We cannot overlook or oversimplify how long-term structural and systemic oppression may limit one's sense of possibility of the future. Hopeful thinking aims to produce well-being, which is not just an individual function of self-care but is also a function of our collective well-being. Therefore, hope is a phenomenon that should be examined through our institutions (Ginwright, 2016). Hope and a collective imagination of the future is the mechanism that activists and social movements use to create strategies that both address oppression and direct social change by shifting how individuals, organizations, and communities relate to one another by envisioning a new way of seeing collective hope (Ginwright, 2016).

### **Implications for Social Work Practice and Research**

Trauma-informed care acknowledges the experiences of the individual and family but alone is not enough to help the ACE survivor move to a place of well-being. Future practice and research on ACEs and trauma-informed care need meaningful theoretical and empirically-based intervention strategies and practice models that can be deployed in clinical and non-clinical settings to improve impact on well-being. Hope theory is a cognitive process that can be taught and modeled, and provides a framework to build on trauma-informed practice. In addition, psychometric scales to measure Hope have been validated for adults and children (Hellman et al., 2013; Hellman et al., 2017; Snyder, 1991;

Snyder et al., 1997). The simplicity of the hope theory also provides a common language that can be useful in interdisciplinary and community settings, making hope a malleable tool for a multi-system response.

Research attention to implementation strategies and non-clinical interventions using Hope theory can add value to the current studies and allow for replication across systems. Research attention to examining sources of hope and specific behaviors that model and enhance hopeful thinking are needed. To what role do hopeful others (i.e., parents, teachers, counselors, caseworkers) increase individual hope? Additionally, hope is likely different across life domains. Most of the existing research treats Hope as a generalized state. Still, future studies should specifically consider hope in different domains of one's life (i.e., would provide a better understanding of the construct and opportunities for focused prevention and interventions for survivors). Future examination of the role of organizations, programs, and services as the potential source of hope by integrating hope into the systems, policies, and procedures is an emerging area of research that requires further development.

Just as other theories that draw from positive or strengths perspectives, hope theory could be used as a tool across systems. Organizations and organizational leaders could draw from the evidence to consider program design and implementation and introduce the main conceptual components of hope to the workforce. Likewise, services deployed to individuals or families can use hope concepts and existing interventions and incorporate them into assessment and case planning, adopting a hope-based approach to case management practice. Utilizing a hope-centered approach does not ignore the real challenges that individuals, groups, and communities face. Rather, it provides a strategy for helping those who experience adversity imagine a future they can control. A hope-centered approach is a different way of looking at individuals, families, and communities with empirically solid evidence of its protective capacity.

Future social work research and practice can continue reconceptualizing the strengths perspective and empowerment models commonly adopted to include the existing and emerging literature on hope theory. The strengths perspective devotes attention to the strengths and capacity of service users and systems to acknowledge that strengths make us resilient in periods of adversity (Gou & Tsui, 2010). Hope has emerged as one of the most salient strengths. In fact, in the *Handbook and Classification of Character Strengths and Virtues*, working across cultures identified six core virtues and 24 character strengths that exist in human nature and can be activated. Studies of character strengths find that hope is perhaps the most significant, with all the other strengths correlated with hope. Hope must be activated for well-being (Peterson & Seligman, 2004).

Saleebey (2000) believed that hope, as conceptualized by Snyder (1994), was the key idea for strengths perspective, recovery, and resiliency movements, noting the critical importance that one must expect their future to get better. He stated, "as social workers, we consort with the subjective, the possible, and help assure the agency of others, working on fashioning their hopes into goals and finding, as patterns with them, those pathways to promise" (Saleebey, 2000, p. 133). While positive psychology has led the research on hope, social work is uniquely situated to translate the science of hope into practice and improve

the collective response to ACEs. While the possibilities for future research with ACEs and hope are numerous, hope theory and associated research offer a promising foundation for answering the call of others who see a need for clarity on how to best intervene on behalf of ACE survivors.

## References

- Anda, R. F., Porter, L. E., & Brown, D. W. (2020). Inside the adverse childhood experiences score: Strengths, limitations, and misapplications: Uses and misuses. *Social Policy & Society*, 18(3), 445-456. <https://doi.org/10.1016/j.amepre.2020.01.009>
- Bartlett, J. D., Griffin, J. L., Spinazzola, J., Goldman Fraser, J., Noroñ, Bodian, R., Todd, M., Montagna, C., & Barto, B. (2018). The impact of a statewide trauma-informed care initiative in child welfare on the well-being of children and youth with complex trauma. *Children and Youth Services Review*, 84, 110-117. <https://doi.org/10.1016/j.childyouth.2017.11.015>
- Baxter, M. A., Hemming, E. J., McIntosh, H. C., & Hellman, C. (2017). Exploring the relationship between Adverse Childhood Experiences and hope. *Journal of Child Sexual Abuse*, 26(8), 948-956. <https://doi.org/10.1080/10538712.2017.1365319>
- Bendall, S., Eastwood, O., Cox, G., Farrelly-Rosch, A., Nicoll, H., Peters, W., Bailey, A. P., McGorry, P. D., & Scanlan, F. (2021). A systematic review of trauma-informed care within outpatient and counseling health setting for young people. *Child Maltreatment*, 26(3), 313-324. <https://doi.org/10.1177/1077559520927468>
- Berliner, L., & Kolko, D. J., (2016). Trauma informed care: A commentary and critique. *Child Maltreatment*, 21(2), 168-172. <https://doi.org/10.1177/1077559516643785>
- Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Associations across adverse childhood experiences levels. *JAMA Pediatrics*, 173(11), 1-10. <https://doi.org/10.1001/jamapediatrics.2019.3007>
- Bunting, L., Montgomery, L., Mooney, S., MacDonald, M., Coulter, S., Hayes, D., & Davidson, G. (2019). Trauma informed child welfare systems- a rapid evidence review. *International Journal of Environmental Research and Public Health*, 16, 1-22. <https://doi.org/10.3390/ijerph16132365>
- Burstein, D., Yang, C., Johnson, K., Linkenbach, J., & Sege, R. (2021). Transforming practices with HOPE (Healthy Outcomes from Positive Experiences). *Maternal and Child Health Journal*, 25, 1019-1024. <https://doi.org/10.1007/s10995-021-03173-9>
- Centers for Disease Control. (2019). *Preventing adverse childhood experiences (ACEs): Leveraging the best available evidence*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. <https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf>
- Chang, E. C., & Banks, K. H. (2007). The color and texture of hope: Some preliminary findings and implications for hope theory and counseling among diverse racial/ethnic

- groups. *Cultural Diversity and Ethnic Minority Psychology*, 13(2), 94-103.  
<https://doi.org/10.1037/1099-9809.13.2.94>
- Chang, E. C., & DeSimone, S. L. (2001). The influence of hope on appraisals, coping, and dysphoria: A test of hope theory. *Journal of Social and Clinical Psychology*, 20(2), 117-129. <https://doi.org/10.1521/jscp.20.2.117.22262>
- Cheavens, J. S., & Guter, M. M. (2018). Hope therapy. In M. W. Gallagher & S. J. Lopez (Eds.), *The Oxford handbook of hope* (pp. 133-142). Oxford University Press.  
<https://doi.org/10.1093/oxfordhb/9780199399314.013.12>
- Cheavens, J. S., Rosenthal, M. Z., Daughters, S. B., Nowak, J., Kosson, D., Lynch, T. R., & Lejuez, C. W. (2005). An analog investigation of the relationships among perceived parental criticism, negative affect, and borderline personality disorder features: The role of thought suppression. *Behaviour Research and Therapy*, 43, 257-268. <https://doi.org/10.1016/j.brat.2004.01.006>
- Children's Bureau. (n.d.). *Adverse Childhood Experiences (ACEs)*.  
<https://www.childwelfare.gov/topics/preventing/overview/framework/aces/>
- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale. *Depression and Anxiety*, 18, 76-82.  
<https://doi.org/10.1002/da.10113>
- Counts, J. M., Gillam, R. J., Perico, S., & Eggers, K. L. (2017). Lemonade for Life-A: pilot study on a hope-infused, trauma-informed approach to help families understand their past and focus on the future. *Children and Youth Services Review*, 79, 228-234.  
<https://doi.org/10.1016/j.childyouth.2017.05.036>
- Courtnage, A. (2020). Hoping for change: The role of hope in single-session therapy. *Journal of Systemic Therapies*, 39(1), 49-63. <https://doi.org/10.1177/1077559516635274>
- Dube, S. R. (2018). Continuing conversations about Adverse Childhood Experiences (ACEs) screening: A public health perspective. *Child Abuse & Neglect*, 85, 180-184.  
<https://doi.org/10.1016/j.chiabu.2018.03.007>
- Duncan, A. R., Bell, S. B., & Hellman, C. M. (2022). Brief hope-building Intervention for adults actively experiencing homelessness: Effect of participation on dispositional hope, satisfaction with life, and perceived standing in society. *Journal of Social Distress and Homelessness, Online*, 1-10.  
<https://doi.org/10.1080/10530789.2022.2107336>
- Edwards, L. M., & McClintock, J. B. (2018). A cultural context lense of hope. In M. W. Gallagher & S. J. Lopez (Eds.), *The Oxford handbook of hope* (pp. 95-104). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199399314.013.8>
- Feldman, D., & Dreher, D. (2012). Can hope be changed in 90 minutes? Testing the efficacy of a single-session goal-pursuit intervention for college students. *Journal of Happiness Studies*, 13(4), 745-759. <http://doi.org/10.1007/s10902-011-9292-4>

- Felitti, V. J. (2003). The Relation between Adverse Childhood Experiences and adult health: Turning gold into lead. *Permanent Journal*, 6(1), 44-47. <https://doi.org/10.7812/tpp/02.994>
- Felitti, V. J., Anda, R. F., Nordenberg, d., Williamson, D. F., Spitz, A. M., Edwards, V., Kiss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventative Medicine*, 14, 245-258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect*, 85, 174-179. <https://doi.org/10.1016/j.chiabu.2017.07.016>
- Gailliot, M. T., & Baumeister, R. F. (2007). The physiology of willpower: Linking blood glucose to self-control. *Personality and Social Psychology Review*, 11, 303-327. <https://doi-org/10.1177/1088868307303030>
- Ginwright, S. (2016). *Hope and healing in urban education: How urban activists and teachers are reclaiming matters of the heart*. Routledge. <https://doi.org/10.4324/9781315757025>
- Guo, W., & Tsui, M. (2010). From resilience to resistance: A reconstruction of the strengths perspective in social work practice. *International Social Work*, 53(2), 233-245. <https://doi.org/10.1177/0020872809355391>
- Hanson, R. F., & Lang, J. (2016). A critical look at trauma-informed care among agencies and systems serving maltreated youth and their families. *Child Maltreatment*, 21(2), 95-100. <https://doi.org/10.1177/1077559516635274>
- Hassija, C. M., Luterek, J. A., Naragon-Gainey, K., Moore, S. A., & Simpson, T. (2011). Impact of emotional approach coping and hope on PTSD and depression symptoms in a trauma exposed sample of veterans receiving outpatient VA mental health care services. *Anxiety, Stress & Coping*, 25(5), 559-573. <https://doi-org./10.1080/10615806.2011.621948>
- Hellman, C. M., & Gwinn, C. (2017). Camp HOPE as an intervention for children exposed to domestic violence: A program evaluation of hope, and strength of character. *Child and Adolescent Social Work Journal*, 34(3), 269-276. <https://doi-org./10.1007/s10560-016-0460-6>
- Hellman, C. M., Muñoz, R. T., Worley, J. A., Feeley, J. A., & Gillert, J. E. (2017). A reliability generalization on the Children's Hope Scale. *Child Indicators Research*, 11, 1193-1200. <https://doi.org/10.1007/s12187-017-9467-6>
- Hellman, C. M., Pittman, M. K., & Muõz, R. T. (2013). The first twenty years of the will and the ways: An examination of score reliability distribution on Snyder's Dispositional Hope Scale. *Journal of Happiness Studies*, 14(3), 723-729. <https://doi.org/10.1007/s10902-012-9351-5>

- Hellman, C. M., Robinson-Keilig, R. A., Dubriwny, N. M., Hamill, C. & Kraft, A. (2018). Hope as a coping resource among parents at risk for child maltreatment. *Journal of Family Social Work, 21*(4-5), 365-380. <https://doi.org/10.1080/10522158.2018.1469559>
- Kelly-Irving, M., & Delpierre, C. (2019). A critique of the adverse childhood experiences framework in epidemiology in public health: Uses and misuses. *Social Policy & Society, 18*(3), 445-456. <https://doi.org/10.1017/S1474746419000101>
- Kennedy, S., Collins, M. K., Cervone, F. P., Sutton, E. S., Block, R., & Huizar, T. (2011). *Breaking the silence on child abuse: Protection, prevention, intervention, and deterrence*. Hearing before the Subcommittee on Children and Families, of the U.S. Senate Committee on Health, Education, Labor, and Pensions. <https://www.help.senate.gov/hearings/breaking-the-silence-on-child-abuse-protection-prevention-intervention-and-deterrence>
- Kirby, K., Sweeney, S., Armour, C., Goetzke, K., Dunne, M., Davidson, M., & Belfer, M. (2021). Developing hopeful minds: Can teaching hope improve well-being and protective factors in children? *Child Care in Practice, 1476*(489X), 1-26. <https://doi.org/10.1080/13575279.2021.1924121>
- Lang, J., Campbell, K., Shanley, P., Crusto, C. A., & Connell, C. M. (2016). Building capacity for trauma-informed care in the child welfare system: Initial results of a statewide implementation. *Child Maltreatment, 21*(2), 113-124. <https://doi.org/10.1177/1077559516635273>
- Larkin, H., Shields, J. J., & Anda, R. F. (2012). The health and social consequences of the adverse childhood experiences (ACE) across the lifespan: An introduction to the prevention and intervention in the community. *Journal of Prevention & Intervention in the Community, 49*(4), 263-270. <https://doi.org/10.1080/10852352.2012.707439>
- Layne, C. M., Greeson, J. K. P., Ostrowski, S. A., Kim, S., Reading, S., Vivrette, R. L., Briggs, E. C., Fairbank, J. A., & Pynoos, R. S. (2014). Cumulative trauma exposure and high-risk behavior in adolescence: Findings from the National Child Traumatic Stress Network Core Data Set. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, S40-S49. <https://doi.org/10.1037/a0037799>
- Long, L. J., & Gallagher, M. W. (2018). Hope and posttraumatic stress disorder. In M. W. Gallagher & S. J. Lopez (Eds.), *The Oxford handbook of hope* (pp. 233-242). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199399314.013.24>
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543-562. <https://doi.org/10.1111/1467-8624.00164>
- Marques, S. C., Lopez, S. J., & Pais-Riberio, J. L. (2009). "Building Hope for the Future": A program to foster strengths in middle-school students. *Journal of Happiness Studies, 12*, 139-152. <https://doi.org/10.1007/s10902-009-9180-3>

- McFadden, P., Campbell, A., & Taylor, B. (2015). Resilience and burnout in child protection social work: Individual and organisational themes from a systematic literature review. *British Journal of Social Work, 45*(5), 1-18. <https://doi.org/10.1093/bjsw/bct210>
- Menschner, C., & Maul, A. (2016). *Key ingredients for successful trauma-informed care implementation*. Center for Health Care Strategies, Inc. [https://www.samhsa.gov/sites/default/files/programs\\_campaigns/childrens\\_mental\\_health/atc-whitepaper-040616.pdf](https://www.samhsa.gov/sites/default/files/programs_campaigns/childrens_mental_health/atc-whitepaper-040616.pdf)
- Mental Health America. (2021). *The state of mental health in America*. <https://www.mhanational.org/research-reports/2021-state-mental-health-america>
- Metzler, M., Merrick, M. T., Klevens, J., Ports, K. A., & Ford, D. C. (2016). Adverse childhood experiences and life opportunities: Shifting the narrative. *Children and Youth Services Review, 72*, 141-149. <https://doi.org/10.1016/j.childyouth.2016.10.021>
- Muñoz, R. T., Brady, S. R., & Brown, V. (2017). The psychology of resilience: A model of the relationship of locus of control to hope among survivors of intimate partner violence. *Traumatology, 23*(1), 102-111. <https://doi-org.ezproxy.lib.ou.edu/10.1037/trm0000102>
- Muñoz, R. T., & Hanks, H. (2019). A structural model of Adverse Childhood Experiences as antecedents of rumination leading to lower hope. *Journal of Interpersonal Violence, 36*(19-20), 9790-9807. <https://doi.org/10.1177/0886260519868195>
- Muñoz, R. T., Hanks, H., & Hellman, C. M. (2020). Hope and resilience as distance contributors to psychological flourishing among childhood trauma survivors. *Traumatology, 26*(2), 177-184. <https://doi-org./10.1037/trm0000224>
- Muñoz, R. T., Hellman, C. M., & Brunk, K. L. (2017). The relationship between Hope and life satisfaction among survivors of intimate partner violence: The enhancing effect of self-efficacy. *Applied Research in Quality of Life, 12*, 981-995. <https://doi.org/10.1007/s11482-016-9501-8>
- Muñoz, R. T., Hellman, C. M., Buster, B., Robbins, A., Carroll, C., Kabbani, M., Cassody, L., Brahm, N., & Fox, M. D. (2016). Life satisfaction, hope, and positive emotions as antecedents of health related quality of life among homeless individuals. *International Journal of Applied Positive Psychology, 1*(1), 69-89. <https://doi-org./10.1007/s41042-017-0005-z>
- Muñoz, R. T., Pharris, A. B., & Hellman, C. M. (2022). A linear model of adverse childhood experiences (ACEs) as drivers of lower hope mediated by lower attachment security in an adult sample. *Journal of Family Violence, 37*(4), 671-679. <https://doi-org.ezproxy.lib.ou.edu/10.1007/s10896-021-00282-5>
- Ong, A. D., Standiford, T., & Deshpande, S. (2018). Hope and stress resilience. In M. W. Gallagher & S. J. Lopez (Eds.), *Oxford library of psychology: The Oxford handbook*



- of hope* (pp. 255-284). Oxford University Press.  
<https://doi.org/10.1093/oxfordhb/9780199399314.013.26>
- Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being: A closer look at hope and modesty. *Journal of Social and Clinical Psychology, 23*, 628-634. <https://doi.org/10.1521/jscp.23.5.628.50749>
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. Oxford Press.
- Pharris, A. B., Miller-Cribbs, J. M., Bragg, J. E., Goodwin, B., & Hellman, C. M. (2022). A simulation training to prepare camp counselors for working with children at Camp HOPE America. *Journal of Youth Development, 17*(2), 141-163.  
<https://doi.org/10.5195/jyd.2022.1174>
- Saleebey, D. (2000). Power in the people: Strength and hope. *Advances in Social Work, 1*(2), 127-136. <https://doi.org/10.18060/18>
- Sege, R. D., & Browne, C. H. (2017). Responding to ACEs with HOPE: Health outcomes from positive experiences. *Academic Pediatrics, 17*(7S), S79-S85.  
<https://doi.org/10.1016/j.acap.2017.03.007>
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5-14. <https://doi.org/10.1037/0003-066X.55.1.5>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*, 194-200.  
<https://doi.org/10.1080/10705500802222972>
- Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. Free Press.
- Snyder, C. R. (2000). *Handbook of hope: Theory, measures, and applications*. Academic Press.
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13*(4), 249-275. [https://doi.org/10.1207/S15327965PLI1304\\_01](https://doi.org/10.1207/S15327965PLI1304_01)
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*(4), 570-585. <https://doi.org/10.1037/0022-3514.60.4.570>
- Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, M., Ware, L., Danovsky, M., Highberger, L., Ribinstein, H., & Stahl, K. J. (1997). The development and validation of the Children's Hope Scale. *Journal of Pediatric Psychology, 22*(3), 399-421.  
<https://doi.org/10.1093/22.3.399>
- Southwick, S. M., Bonanno, G. A., Masten, A. S., Panter-Brick, C., & Yehuda, R. (2014). Resilience definitions, theory, and challenges: Interdisciplinary perspectives.

- European *Journal of Psychotraumatology*, 5(1), 1-14.  
<https://doi.org/10.3402/ejpt.v5.25338>
- Substance Abuse and Mental Health Administration [SAMHSA]. (2012). *SAMHSA's working definition of recovery: 10 guiding principles of recovery* (Publication ID: PEP12-RECDEF). U.S. Department of Health and Human Services.  
<https://www.dshs.wa.gov/sites/default/files/AL TSA/stakeholders/documents/duals/Toolkit/Ten%20Guiding%20Principles%20of%20Recovery.pdf>
- SAMHSA. (2014). *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*. HHS Publication No. (SMA) 14-4884. Author.  
[https://ncsacw.acf.hhs.gov/userfiles/files/SAMHSA\\_Trauma.pdf](https://ncsacw.acf.hhs.gov/userfiles/files/SAMHSA_Trauma.pdf)
- Sulimani-Aidan, Y., Melkman, E., & Hellman, C. M. (2019). Nurturing the hope of youth in care: The contribution of mentoring. *American Journal of Orthopsychiatry*, 89(2), 134-143. <https://doi.org/10.1037/ort0000320>
- Sympson, S. C. (2000). Rediscovering hope: Understanding and working with survivors of trauma. In C. R. Snyder (Ed.), *Handbook of hope: Theory, measures, & applications* (pp. 285-300). Academic Press. <https://doi.org/10.1016/B978-012654050-5/50017-8>
- U.S. Department of Justice. (2019). Preventing Adverse Childhood Experiences (ACEs)--The Martinsburg Initiative (Webinar). <https://ovc.ojp.gov/events/preventing-adverse-childhood-experiences-aces-martinsburg-initiative-webinar>
- Valle, M. F., Huebner, E. S., & Suldo, S. M. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology*, 44(5), 393-406.  
<https://doi.org/10.1016/j.jsp.2006.03.005>
- van Breda, A. (2018). A critical review of resilience theory and its relevance for social work. *Social Work*, 54(1), 1-18. <https://doi.org/10.15270/54-1-611>
- Wade, R., Shea, J. A., Rubin, D., & Wood, J. (2014). Adverse childhood experiences of low-income urban youth. *Pediatrics*, 134(1), e13-e20.  
<https://doi.org/10.1542/peds.2013-2475>
- Zinn, A., Palmer, A. N., & Nam, E. (2017). The predictors of perceived social support among former foster youth. *Child Abuse & Neglect*, 72, 172-183.  
<https://doi.org/10.1016/j.chiabu.2017.07.015>

**Author note:** Address correspondence to Chan M. Hellman, Anne & Henry Zarrow School of Social Work, University of Oklahoma, Tulsa, OK, 74135. Email: [chellman@ou.edu](mailto:chellman@ou.edu)