

## PATHWAYS FROM PAIN TO RESILIENCE

**Larry K. Brendtro**

**Abstract:** Abraham Maslow was among the first to hypothesize that most emotional and behavioral problems stem from unmet needs. Now, a large body of research on brain science, trauma, and resilience validates this concept. Humans experience emotional pain when their needs are frustrated. The most basic biosocial needs are for attachment, achievement, autonomy, and altruism. When these needs are met, children thrive. When they are not met, children experience pain-based emotions, thinking, and behavior. This article explores research and practical strategies for responding to the needs beneath pain-based behavior instead of reacting to problems.

**Keywords:** developmental needs, pain-based behavior, attachment, autonomy, altruism, achievement

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### **Universal Developmental Needs**

Most serious problem behaviors among children and youth are tied to disruption of brain-based needs, which are critical to growth and well-being (Jackson, 2014). University of Pittsburgh researchers Li and Julian (2012) reviewed studies showing that the *active ingredient* in all successful work with children and youth — now as well as throughout human history — is the *developmental relationship*. As defined by Bronfenbrenner (1979), this includes four essential elements, which are listed below with corresponding biosocial needs in parentheses:

- a close emotional bond (Attachment)
- increasingly complex tasks (Achievement)
- shifting the power to the learner (Autonomy)
- a relationship of reciprocity (Altruism)

When these needs are met, individuals thrive. But if frustrated, humans experience pain and revert to reactive coping strategies, which James Anglin (2002, 2014) has described as *pain-based behavior with children and adolescents in conflict*.

Abraham Maslow (1943) proposed a hierarchy of human needs that, after three-quarters of a century, is still the world's most-cited model of human motivation (Cory, 2000). At the base of the pyramid are physiological and safety needs. Above these survival functions are higher growth needs for belonging, esteem, and self-actualization. Earlier in his career, Maslow had extensively studied the Blackfoot, an Indigenous people in Canada, and had marveled at their generosity and emotional health. In the last year of his life, he corrected his oversight by placing *self-transcendence* — commitment beyond self — at the highest level of his hierarchy (Koltko-Rivera, 2006).

A powerful principle articulated by Abraham Maslow (1959) is that most problem behavior results from unmet needs, and effective treatment must focus on these. Maslow further observed that since needs are biologically based, they would be tied to universal values. This is shown in the Table 1, which notes the consilience of biosocial needs, Maslow's hierarchy of needs, and Circle of Courage values that were also derived from Indigenous wisdom (Brendtro, Brokenleg, & Van Bockern, 2002).

Table 1 *Consilience of Needs and Values*

Biosocial Needs	Maslow Hierarchy of Needs	Circle of Courage Values
Attachment	Belongingness	Belonging
Achievement	Esteem	Mastery
Autonomy	Self-Actualization	Independence
Altruism	Self-Transcendence	Generosity

The human social brain is hard-wired to meet biosocial needs for attachment, altruism, achievement, and autonomy. But we, like all living creatures, also have brainstem survival programs for approach (seek pleasure) and avoidance (escape pain). Approach circuits motivate us to *take risks*; this is necessary for survival since without new experiences one cannot learn to cope with challenges. Avoidance circuits designed to *prevent harm* react to perceived threats by triggering defensive fight/flight/freeze reactions.

Traditional coercive behavior management systems manipulate pain and pleasure for compliance and control. In humans, unlike other animals, the social brain has evolved in such a manner that our primitive pain and pleasure circuits are closely tied to higher biosocial needs (Brendtro & Mitchell, 2015). Thus, meeting these needs is a powerful source of positive emotions, such as the joy of belonging, mastery, independence, and generosity. On the other hand, deprivation of these needs is profoundly painful, as described in the following paragraphs.

**Attachment:** Since humans need their fellow humans to survive, we have evolved brain structures that make positive relationships richly rewarding. Social bonds release a rush of oxytocin and other pleasure chemicals that create well-being and even elation. In contrast, rejection or loss of a loved one can trigger a wide range of pain-based behaviors. For example, feeling rejected triggers shame while belonging triggers pride. Pain-based emotions from loss of a loved one can lead to grief, hopelessness, or shame.

**Achievement:** Developing talents, solving problems, and learning skills are directly related to life success and thus are intrinsically rewarding in the brain. Nicholas Hobbs (1982), founder of the re-education philosophy (Re-ED), a model for working with troubled youth, once exclaimed that academic success to a youth who had only known failure is exhilarating, motivating, and joyful: “It is like spitting from the top of a windmill” (Hobbs, 1982, p. 287). In contrast, the frustration of ongoing failure can create anger, avoidance, or a debilitating sense of being stupid and unvalued. Failing students often try to repair their self-respect by hostile behavior, defying teachers, or breaking school rules (Gold & Osgood, 1992). Of course, these behaviors are ultimately self-defeating.

**Autonomy:** The sense of personal power starts with self-regulation, and, with maturity, leads to growing confidence and self-efficacy. Having a sense of power is a major contributor to pride and self-worth. But, persons who feel powerless and unable to shape their destiny have a sense of learned helplessness that can lead to depression and hopelessness. In other cases, the pain of powerlessness is directed outward as youth become defiant and rebellious. Research shows that powerlessness has life-long effects on health and well-being (Keltner, 2016). Further, developmental trauma, by definition, involves a combination of threat with feelings of helplessness.

**Altruism:** Charles Darwin (1871) proposed that compassion for others was the strongest instinct in humans. Contrary to popular myth, he never used the term “survival of the fittest”,

which was coined by social Darwinists to justify theories of racial superiority (Keltner, 2009). After the death of his daughter, Darwin became absorbed in studying compassion for others, which he called sympathy. He concluded that this instinct was even stronger than self-interest in most persons. In *The Descent of Man*, he wrote that “those communities which included the greatest number of the most sympathetic members would flourish the best” (Darwin, 1871, p. 130).

Over thirty years ago, our team began studying the impact of peer helping programs (Vorrath & Brendtro, 1985). Most recently, Christoph Steinebach and colleagues (2018) published a German-language book on *Positive Peer Culture*. A central theme in this latest work is that generosity is the master variable that enables humans not only to survive but to thrive. Indigenous cultures enlisted children and youth in helping others, with the recognition that this was essential to creating positive citizens in a community. The only way youth can prove their sense of worth is to be of value to others — all other avenues are paths to purposelessness. Uri Bronfenbrenner (2005) explains the emptiness of growing up in a materialistic, self-serving culture:

In the United States, it is now possible for a youth, female as well as male, to graduate from high school or university without ever caring for a baby; without ever looking after someone who was ill, old, or lonely; and without comforting or assisting another human being who really needed help.... Sooner or later, and usually sooner—all of us suffer illness, loneliness, and the need for help, comfort, and companionship. No society can long sustain itself unless its members have learned the sensitivities, motivations, and skills involved in assisting and caring for other human beings. (p. 53)

An international body of researchers summarized converging evidence that generosity is a cultural universal motivated by the design of the human brain (Aknin et al., 2013). As Boehm (2012) described, our brains were well established in their current form 45,000 years ago. We evolved motivation systems to thrive in egalitarian cultures. But since some persons have highly authoritarian tendencies, traditional cultures developed systems of power leveling to insure that aggressive persons would not be allowed to wield unchecked power. Such is the core value of democracy.

With the advent of agriculture and industrialization 10,000 years ago, great inequities in wealth and privilege emerged. While our culture has drastically changed, our brains have not (Gluckman & Hanson, 2008). We are genetically designed for altruism — equipped to live in egalitarian groups (Boehm, 2012). Our well-being is directly related to creating a shared community of respect instead of a hierarchy of dominance and subjugation. A society with great disparities in power and wealth is dysfunctional; as Robert Sapolsky quips, “translated from social science-ese, marked inequality makes people crummier to one another” (2017, p. 292). While we may not be able to change the larger society, we can build microcommunities in our families, schools, and communities that better fit the human brain with universal values of the Golden Rule.

We will only thrive when we meet universal needs and values for belonging, mastery, independence, and generosity. Discovering the need beneath the problem is the ultimate antidote to pain-based behavior.

### Pain-Based Behavior

*Hurt people hurt people. (Native American proverb)*

In an intensive study of 10 Canadian programs for youth at risk, James Anglin concluded that every young person without exception “had experienced deep and pervasive psycho-emotional pain” (2002, p. 111). Anglin coined the term *pain-based behavior* to describe acting out or withdrawal reactions, which are a residue of unresolved past trauma. Essentially, most of what has traditionally been labeled as deviance or disorder is better understood as pain-based behavior.

When attention is focused on defiant or destructive actions, the young person is seen as the problem because of the pain he or she is causing others. As Nicholas Hobbs (1994) observed, when children disturb or disrupt us we label them as disturbed or disruptive. Locked in a deficit mindset, we ask, “What is wrong with you?” But the more important question is, “What has happened to you?” Once we gain a window into the inner world of a youth in distress, a very different picture emerges. Attuned to another’s pain, we shift from blame to empathy. And when reactive behavior is understood as a coping strategy, we discover hidden resilience; the new question becomes, “What is strong with you?” (Bereiter & Brave Heart, 2017).

Pain is a very powerful motivator that permeates emotions, thinking, and behavior. In a toxic cascade, a youth might experience painful feelings of rejection, painful thoughts of being bad and unworthy of love, and react with pain-based behavior by hurling hostility at others.

**Painful emotions** include fear, anger, sadness, disgust, hopelessness, helplessness, hatred, shame, and guilt. While there are myriad labels for negative feelings, most are variations of a handful of basic aversive emotions.

**Painful thinking** includes distressing thoughts such as worry, anxiety, distrust, pessimism, blame, vengeance, denial, and defensive rationalization.

**Pain-based behavior** puts painful emotions and thinking into action as an attempt to escape from pain, defend against pain, reciprocate pain, relieve pain, or eliminate the problem causing the pain. Acting out anger is the most common behavior as it appears less risky than showing vulnerability (Brendtro & Larson, 2006).

Although children may present a tough and threatening front, they are still vulnerable on the inside. Describing troubled emotions as painful is more than a metaphor, since the phrase “hurt feelings” is literally true. Researchers at the University of California, Los Angeles found that physical and social pain use the same deep brain circuits to signal that the individual is in danger

(Eisenberger, Lieberman, & Williams, 2003). They studied brain scans of students playing a computer ball-tossing game who were excluded by peers. This simulation of social rejection led to reported feelings of distress and a burst of activity in the brain region that processes physical pain and is closely tied to the amygdala, the brain's danger detector. Research shows that disrupting the need to belong can trigger not only short-term pain but even illness (Ryan & Deci, 2017).

For young people in pain, life is a daily struggle to handle distress; they often use coping strategies which might be considered as reactive resilience. Actions that seem senseless to others make perfect sense in their *private logic*, to borrow a term coined by Alfred Adler (1930). All behavior serves some purpose, even if it causes further problems. Abraham Maslow (1959) observed that most so-called “symptoms” of emotional problems are attempts to cope with unmet needs. Here are several examples of pain-based behavior which may be linked to frustration of Circle of Courage needs for belonging, mastery, independence, and generosity:

**Disrupted belonging:** Nick prevents the pain of rejection by keeping people at bay. Felicia mediates her loneliness with alcohol and other drugs. Lawanda replays past rejection by joining in ridiculing others.

**Disrupted mastery:** Maria avoids the pain of failure by skipping school. Rusty masks a sense of inadequacy by frenetic efforts to achieve. Ramon is a successful entrepreneur in the drug trade.

**Disrupted independence:** Lynnette wallows in learned helplessness and hopelessness. Lionel struggles to exert power by defiant rebellion. Rick misuses his power to hurt and abuse others.

**Disrupted generosity:** Kevin conceals his emptiness in the wild pursuit of pleasure. Shelly stifles empathy by justifying her self-centered lifestyle. Shandra feels her life has no purpose.

Unfortunately, many who work with such young people are not trained to recognize or respond to the pain concealed beneath these problems. The typical intervention is either a sharp reprimand or the threat of consequences. Thus, adults easily become drawn into battles with the very children who most need encouragement. Pain-based behavior is met with pain-based discipline, which is the essence of punishment.

### Punishment as Pain

Ironically, “punishment” (from the Latin word *poena* meaning both punishment and pain) is the administration of more pain as a consequence of pain-based behavior. Effective intervention requires a deeper understanding of the origins of this pain-based behavior. Although trusting social bonds are the first step in helping these young people heal, punishment is a typical way of dealing with difficult behavior. Even the founder of behavior modification, B. F. Skinner (1971),

contended that punishment was likely to produce unintended side effects. Likewise, Fritz Redl (1966) described how punishment of children can easily backfire as seen in the Table 2 below.

Table 2 *Intent of Punishment versus Effects of Punishment*

Supposed Intent of Punishment	Unintended Effects of Punishment
Youth experiences pain from physical punishment, loss of privileges, exclusion, time out, or reprimand.	Youth is impervious to pain, shows toughness by battling authority, seeks negative attention or exclusion, or believes he or she deserves abuse.
Punishment motivates the youth to evaluate his or her behavior and learn from this unpleasant experience.	Youth directs anger at the punisher instead of owning behavior and reacts with fury, avoids relationships with the adult, or runs away.
The youth feels remorse and vows to reform behavior: “I won’t do something dumb like this again.”	Youth fails to recognize a problem or accept responsibility and becomes sneakier, vowing: “I won’t be so dumb and get caught next time.”
Later when tempted, the youth recalls the previous incident and shows self-control and responsible behavior.	Those lacking self-regulation and prosocial values continue to engage in irresponsible behavior that causes harm to self or others.

Certain potentially destructive practices are sometimes rationalized as “evidence-based” because some research study shows they can affect behavior — for example, time out (Embry & Biglan, 2008). But no technique is justified unless it supports positive goals for growth. For example, exclusionary time out may suppress undesirable behavior but is counterproductive when used to isolate upset children and adolescents who need emotional support.

In 1890, William James wrote that “The great source of terror in infancy is solitude” (Bowlby, 1978, p. 378). John Bowlby observed that children are bound to their caregivers by brain-based attachment systems essential to survival. They seek proximity to the caregiver, and separation is the primary anxiety of children (Bowlby, 1962). This need for human closeness persists throughout the lifetime, although it is most notable in times of crisis or loss. A wealth of research on the neuroscience of relationships supports the role of love as the primary mechanism for behavioral change and growth (Perry & Szalavitz, 2011).

Many parents regard time out as an opportunity for the child to engage in self-calming and self-reflection, which may be effective if the child does not interpret separation as rejection. Children secure in the love of their parents can adapt to a wide range of disciplinary strategies. However, developmental psychologist Martin Hoffman (2000) considers discipline by love withdrawal as more toxic than power assertion since it threatens the most basic need for social bonds. Whatever the rationale, social isolation is usually perceived as a punitive consequence, which of course is often the disciplinary intent. Denis Stott (1982) studied 100 delinquent youth

in England and found that many had been threatened with abandonment and were acting out to test the loyalty of their caregivers. Youth exposed to parental rejection showed high levels of hostility.

Social isolation to manage behavior is still widely used in many residential, day treatment, and special education programs. Our colleague David Miller (1986) studied the perceptions of children placed in a time out room in an Ohio treatment program. Children produced drawings of their experience which conveyed feelings of fear and abandonment. Explaining their pictures, children described themselves as “sad and mad”, “kid crying”, “I get scared”, “reminds me of dead people”. While some described time out as a time for calming down, this was inconsistent with their descriptions of drawings and related emotions. Miller concluded that exclusionary time out is seldom if ever therapeutic. Instead, children in emotional distress need supportive interventions where they can communicate with trusted adults and reflect on their behavior (Hoffman, 2000).

Some might contend that using time out as a behavioral consequence is appropriate with normal children. Florida State University researchers Readdick and Chapman (2009) studied preschoolers’ perceptions and feelings about time out in 11 childcare centers. Children were more likely to be isolated for noncompliance than for aggression. Most expressed painful thoughts — feeling alone, disliked by their teacher, and ignored by peers. Time out was generally seen as a punishment and produced feelings of sadness, shame, and fear. Ironically, many were unable to say why they were in time out, making it ineffective in inhibiting future misbehavior.

In their classic study, *The Aggressive Child*, Fritz Redl and David Wineman (1957) described the use of proximity, touch, and affection to calm upset emotions. This was roundly criticized at the time. In behavior modification mythology, showing such affection was interpreted as social reinforcement of attention-seeking behavior. Yet building relationship beachheads is the pivotal event in healing pain. Trauma researcher Bessel van der Kolk (2014) describes physical touch as the most powerful means humans have for support and healing, yet this is proscribed in many schools and treatment settings. He also challenges the widespread reliance on medicating emotional pain which only blunts sensations instead of teaching persons how to deal with distress. Further, research showing that social engagement calms fear and rage (Bath & Seita, 2018) is calling into question the widespread use of exclusionary time out as a means of managing misbehavior.

### Conflict Cycles

The way others respond to challenging behavior can either intensify pain or help develop resilience. Talking to a supportive peer or adult can calm an agitated brain. Yet, without training, many are likely to react to negative feelings. Our social brains have evolved to operate on the “tit-for-tat” rule which fosters cooperative behavior (Axelrod, 2006; Rapoport, 1974). Thus, we react to positive or negative emotions of others in a mirror image fashion: friendliness invites friendliness while hostility evokes hostility. The tit-for-tat principle is simple: *When first*

*encountering another person, act friendly. After that, match the other person's friendly or hostile reactions.*

Humans are by nature highly sociable and seek friendly interactions. Tit-for-tat offers a simple means for turning strangers into friends. But letting down our guard could make us vulnerable if others have hostile intentions. Thus, humans have an inbuilt self-protective option. At the first sign of danger or threat, we are biologically programmed to stop being friendly and react with fight, flight, or freeze behavior. This natural process is upended when children who have known trauma and hostility react to our good intentions with distrust or disrespect.

If a child's emotional distress leads to aversive pain-based behavior, this triggers similar painful emotions and reactions in the adult. In seconds, conflict escalates as each person mirrors the other's emotions. Once tit-for-tat hostility is triggered, conflict is self-perpetuating until one party disengages or is defeated. Tit-for-tat may have survival value when meeting strangers but is a terrible way of dealing with troubled children. "If you respect me, I'll respect you" may sound like common sense but backfires when a child has little experience of being treated with respect.

Nicholas Long (2014) developed the Conflict Cycle to describe how hostility can escalate. We have adapted this with the acronym CLEAR, which is based on how the brain copes with stress. This is shown in Figure 1 with labels added from Anglin's (2014) concept of pain-based behavior.

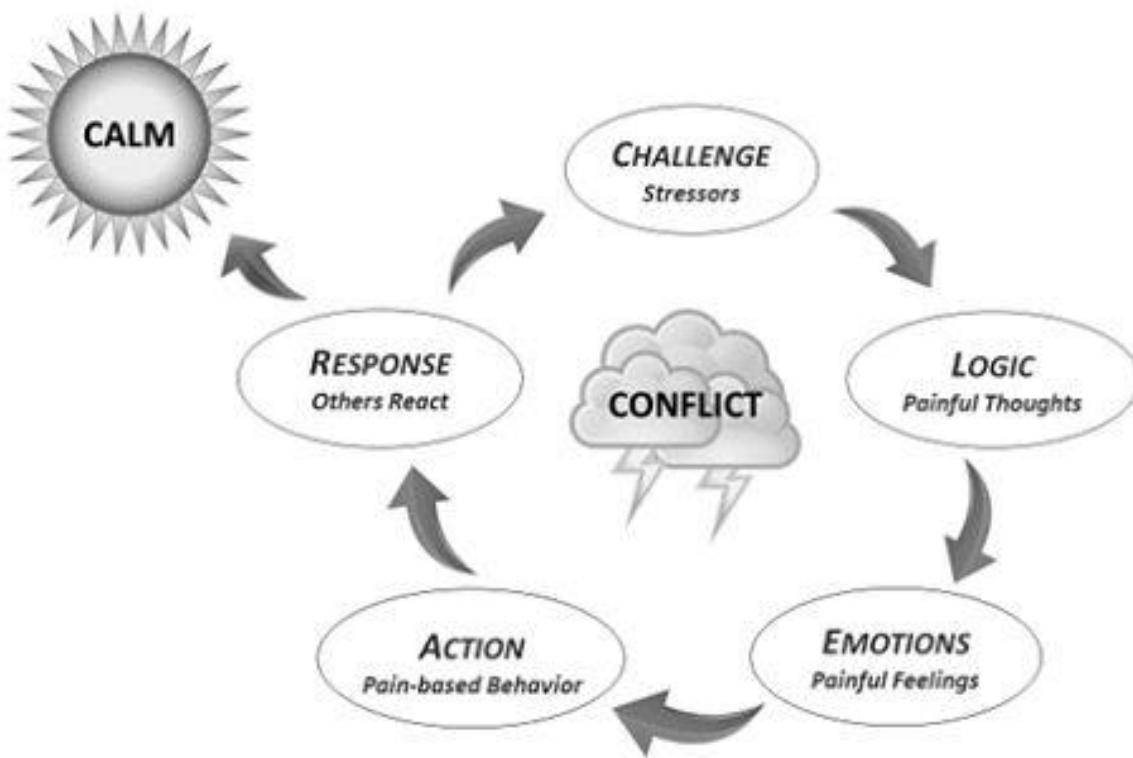


Figure 1. CLEAR conflict and calming cycles.

A conflict cycle begins with some stressful event that registers in the brain's amygdala. The amygdala alerts the logical brain and the emotional brain, triggering painful thoughts and feelings. These lead to an action, in this case, pain-based behavior. If adults and peers react by reciprocating pain, stress intensifies, and parties become locked in an escalating conflict cycle. But responding to a person's needs instead of reacting to problems can have a calming effect.

Long uses the analogy of a thermometer and thermostat to describe two opposite responses to angry conflict. When the environment heats up, a thermometer rises — but it takes a thermostat to turn down the heat. This involves learning to override innate brain programs that motivate us to match hostility with hostility. To avoid escalation of pain-based behavior, both adults and young people need to understand how to prevent and disengage from conflict cycles.

### From Rancor to Respect

Recent research shows that the human brain has a *polyvagal circuit* which is designed to determine if another person has hostile or friendly intent (Porges & Dana, 2018). Visual cues of facial expressions and eye contact as well as the tone of voice trigger instant judgments of threat. When a person is seen as safe and trustworthy, this activates the *social engagement system* which

is the preamble to building positive attachments. This new science is informing approaches to trauma and relational child care.

Research on parenting, teaching, treatment, counseling, and group or team work shows that the tone of nonverbal and verbal interactions strengthens or damages social bonds. French psychologist Paul Diehl (1987) describes the first step in restoring harmony in relationships as removing any sign of *rancor* from interactions. While youth realize they have faults, a tone of rancor fuels pain-based behavior. Thus, Diehl describes the first step in his work with caregivers or teachers as securing agreement from the adult that any tone of rancor would cease.

**Rancor** is a demeaning reaction which conveys hostility and rejection. Examples are aloofness, irritation, annoyance, scolding, sarcasm, mocking, rolled eyes, insults, superiority, belittling, and lack of concern. Rancor triggers pain-based reactions including feelings of rejection, inadequacy, humiliation, and worthlessness.

**Respect** is an esteeming response which conveys empathy and positive regard. Examples are warmth, sympathy, humor, encouragement, kindly criticism, and gestures of liking, affection, and generosity toward the other person. Respect produces feelings of acceptance, competence, confidence, and self-worth and builds social bonds.

Rancor stifles empathy while respect conveys benevolence. It is essential in working with children in pain that one communicates warmth and respect instead of rancor (Brendtro & du Toit, 2005). Yet without self-reflection, adults may not be aware that they are sending potent signals that trigger amygdala alarm. Even very young children can read these cues of rancor or respect. Table 3 shows the stark contrast of these two types of reactions.

Table 3 *Aspects of Rancor versus Respect*

Rancor	Respect
Hostile	Friendly
Blaming	Empathizing
Demeaning	Encouraging
Impatient	Patient
Arrogant	Humble
Dominating	Empowering
Indifferent	Interested
Provocative	Calming
Argumentative	Cooperative
Vengeful	Forgiving

While children in pain may be difficult to nurture, an abundance of resilience research shows that positive adult support is essential if they are to heal and thrive. Emmy Werner and Ruth Smith (1982) conducted decades of longitudinal studies on children from the island of Kauai who grew up in high-risk environments. Those who elicited mostly negative responses from others were highly vulnerable, while those who received primarily positive responses were likely to show resilient life outcomes. And, in one of her final publications, Emmy Werner (2012) described how positive life outcomes in the children of Kauai were closely tied to meeting needs as expressed in the Circle of Courage. These young people at risk experienced supportive relationships, mastery, responsibility, and a spiritual purpose. Alan Sroufe, Byron Egeland, Elizabeth Carlson, and Andrew Collins (2005) at the University of Minnesota conducted an extensive study of youth development and concluded that most emotional problems among children were the result of experiencing too much stress with too little support.

### Stress and Adversity

The starting point for pain-based behavior is stress, which activates defensive survival circuits (LeDoux, 2015). This state of physical and psychological arousal signals some challenge or difficulty. Stressful events make up the fabric of normal life, and successful coping builds resilience. But when stress becomes too intense and lasting, this can have toxic effects. Such is seen in Figure 2 below which is adapted from the Harvard University Center on the Developing Child (2018).

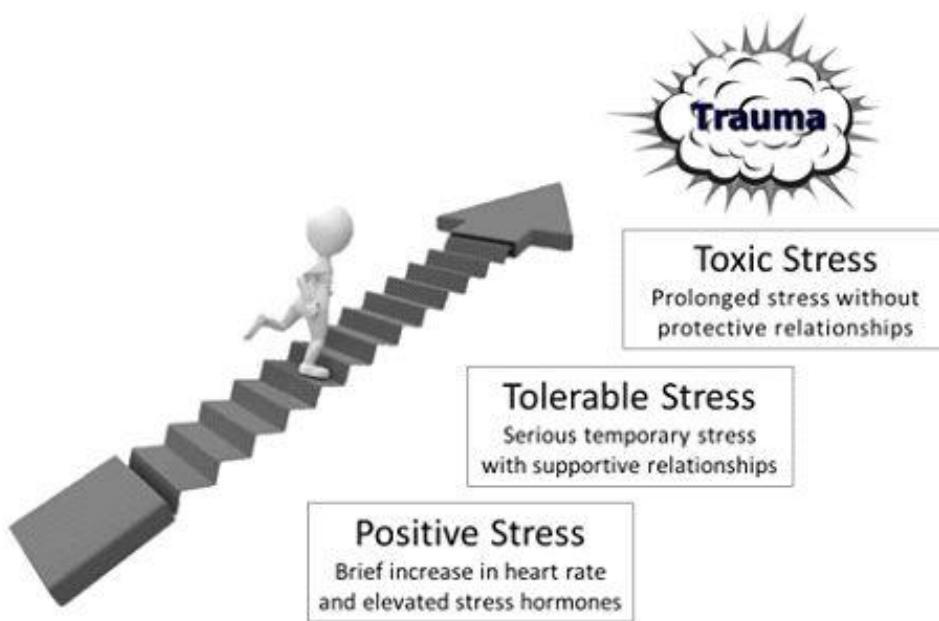


Figure 2. The path to trauma.

Hundreds of stressors surround children. The Adverse Childhood Experiences (ACEs) screening questionnaire provides a quick way of tabulating 10 common stressors that children experience before age 18. The accompanying list was developed by Felitti and colleagues (1998) in research on adults, in cooperation with a health insurance provider and the Centers of Disease Control and Prevention.<sup>1</sup> This ongoing research seeks to determine how Adverse Childhood Experiences affect life-long physical and mental health. Ten key adverse events were correlated with problematic health, social, and behavioral outcomes, as shown in Table 4.

Table 4 *Adverse Childhood Experiences*

Household Dysfunction	Childhood Abuse and Neglect
Substance abuse	Psychological abuse
Parental separation or divorce	Physical abuse
Mental illness	Sexual abuse
Domestic violence	Physical neglect
Criminal behavior	Emotional neglect

One can find a person's ACE score simply by tallying the number of these experiences which occurred before age 18 (regardless of the frequency or severity of these events). To compute an ACE score, one can use the quick form available on the internet.<sup>2</sup> In general, there is a linear relationship between the number of ACEs and various health and psychological problems. For example, only 6% of persons with an ACE score of zero become involved in illicit drug use while this jumps to 27% for those with an ACE score of four or more (Bath & Seita, 2018).

Adverse events create *stress*, which is a confusing word with two opposing meanings. Some kinds of stress can be exciting and challenging (eustress); but too often stress is an unpleasant state of worry, frustration, and fatigue (distress). While most persons can manage a limited number of adverse events, chronic and extreme stress create *allostatic overload*, which is the technical term for "wear and tear on the body and brain from being *stressed out*" (McEwan, 2005, p. 315).

While the ACE score targets adverse events tied to the family, there are many other stressors in school, peer group, and community. Some have suggested that encounters for kids in pain with social service, mental health, or correctional systems often create the eleventh ACE risk: they are retraumatized by iatrogenic treatment. In this vein, Bessel van der Kolk (2005) specifically adds school neglect to the list of causes of relational trauma. One could list hundreds of adverse experiences, but the harmful impact of these boils down to this: adverse childhood experiences interfere with meeting basic developmental needs.

<sup>1</sup> A useful website with publications and practical resources on ACEs is [www.acesconnection.com](http://www.acesconnection.com).

<sup>2</sup> <https://acestoohigh.com/got-your-ace-score/>

Since the original ACE research was conducted on a sample of mostly middle-class individuals, ongoing studies are seeking to identify additional adverse experiences related to growing up in economically deprived inner-city environments. The Philadelphia Urban ACE Survey (PHMC, 2013) found that 40% of adults witnessed violence when growing up (e.g., a person being beaten, stabbed, or shot). Many reported discrimination based on their race or ethnicity. Almost 3 in 10 did not feel safe in their neighborhoods or did not trust their neighbors during childhood. This suggests that many urban environments are traumagenic.

### **Painful Environments**

Poverty produces pain as these families have few resources to buffer the inevitable crises of life. For example, welfare reform forced single mothers into the workplace without corresponding child care resources, leading to the unintended effect of what Nina Bernstein (2002) calls “no-parent families.” As Desmond (2016) noted, in many urban areas, families are precipitously removed from housing at the whim of landlords. For example, a woman was evicted because her boyfriend beat her up. Further, if one family member has encounters with the justice system, the entire family can be removed from public housing.

The National Academy of Pediatrics (2015) considers nutrition a matter of health and safety. Children growing up with food insecurity have lifelong health problems. Further, inadequate nutrition impairs concentration and intelligence and is linked to higher levels of behavioral and emotional problems from preschool through adolescence. The disaster of lead pollution in the drinking water of Flint, Michigan, demonstrates the critical need for children to be safe from exposure to toxic chemicals that are in everyday use (Lu, 2015). Modern technology has produced innumerable substances that are not natural in the history of human development, and these can have wildly unpredictable effects on growth, development, and health (Grandjean & Landrigan, 2014).

Exposure to certain common toxins, both in parents and their offspring, is related to aggressiveness, intellectual decline, and autism (Grandjean & Landrigan, 2014). These harmful effects can be passed to subsequent generations through the process of *epigenetics* where the environment changes gene expression. The leading researcher in this field, Michael Meaney (2012), contends that so-called “side effects” of prescription drugs are gene expression gone awry. The prenatal stage where thousands of neurons are being created every minute abounds with epigenetic influences. The safety and health of the developing child can be impaired by all of these: drugs, stress, poverty, nutrition, bereavement, natural disaster, and cultural disruption. The solution for all such problems is to rear children in the kind of safe, nurturing, and health-promoting environments in which humans are meant to live.

## Coercive and Restorative Environments

The Alliance for Children and Families commissioned a study of behavior management methods employed with troubled youth, which identified a potpourri of pain-based forms of discipline used widely, even in well-staffed schools and treatment programs (Brendtro, 2004). The coercive methods fell into three categories that increased physical, emotional, and developmental stressors.

*Physical stressors* disrupt the body's well-being. These include physical maltreatment, illness, hunger, lack of sleep, crowding, food insecurity, and dangerous environments.

*Emotional stressors* produce psychological pain including fear, anxiety, anger, grief, guilt, and shame. These pain-based emotions trigger pain-based behavior.

*Social stressors* disrupt normal biosocial growth needs by impeding the development of belonging, mastery, independence, and generosity.

Brendtro and du Toit (2005) contrasted coercive versus restorative climates. They document how coercive climates increase levels of physical, emotional, and social stressors. Frequently, these interventions have toxic effects and trigger pain-based behavior.

*Physical coercion* produces physiological distress. This involves physical punishment, deprivation of physical needs, and physical restraint or seclusion. In contrast, *physical support* fosters protection, nurturance, and freedom.

*Emotional coercion* produces psychological distress and interferes with the normal development of emotional resilience. This includes threat, hostility, and blame. In contrast, *emotional support* involves trust, respect, and understanding.

*Social coercion* interferes with universal needs for belonging, mastery, independence, and generosity. These coercive practices include exclusion, frustration, domination, and unconcern. In contrast, *social support* is essential in meeting developmental needs.

Bernard and Kurlychek (2010) provide a historical perspective on a century of debate about how to deal with problem behavior. With predictable regularity, public opinion and professional interventions have cycled between periods of leniency followed by eras of harsh treatment. In pendulum fashion, each extreme falls short and triggers its opposite. Yet it has been known since classic studies by Lewin, Lippitt, & White (1939/1999) that democratic relationships between adults and young people are more effective than either permissive or coercive approaches.

There is every reason to believe that recycling of failed methods will continue if folk psychology and political posturing distract us from meeting the core needs of our children and youth. Ironically, Indigenous peoples were able to rear the young in cultures of respect that

spanned millennia (Bolin, 2006; Brokenleg, 2012). This was because these societies were organized to meet the developmental needs of children (Rogoff, 2003). While we may be unable to transform our authoritarian society, we have the capacity to create restorative environments in schools and child-caring settings where young people in pain can heal and thrive. As Li and Julian (2012) observed, developmental relationships are the active ingredient of effective growth and change.

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