

# Understanding Trauma and Adversity

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Around the world, communities and workers are hard hit by the transition away from coal. This transition process is complex and multifaceted — and for many, not voluntary. As rural communities confront global economic forces, the need for comprehensive transition planning is clear. Local communities are working to reframe and redefine their economies. In some areas, that planning has been underway for years, while others are just beginning to tackle this significant transformation.

**Planning for a just transition can include the cultivation of resiliency and protective factors, helping current workers manage the psychosocial aspects of economic change while also strengthening families to ensure the healthy development of children, so that the community can thrive over time.**

The sheer complexity of coal-dependent community transition requires a new model for economic development and philanthropy. Increasingly, communities are engaging in cross-sector partnerships to develop new frameworks for planning and development. At the same time, many of these same communities are now battling, or are already deep in the throes of confronting, indicators of complex trauma among residents. Substance abuse, violence in the home, incarceration, child neglect, and even homelessness are plaguing coal-dependent communities at alarming rates.<sup>1</sup>

Successful economic transition planning, then, must take into consideration the role of both individual and community trauma, past and present. The magnitude of change facing many rural coal communities opens the door to using a trauma-informed lens to evaluate community needs and develop transition plans that include an intentional focus on building personal and community resilience. This paper will explain some of the basic concepts around adversity, trauma, and resiliency, with a focus on how those factors manifest at a community level, and what community planners should consider in transition planning.

# ADVERSITY & TRAUMA

Ordinary stress is a natural part of life and can, at times, be beneficial. Experiencing stress and adversity – difficult moments, challenges, even failures – is an important part of healthy brain development. Our bodies have a stress response system that activates in times of adversity to protect us. Proper recovery from those moments of stress develops our sense of resiliency, the capacity to “bounce back” from difficulty.

Unlike ordinary adversity, however, traumatic stress is an experience that overwhelms the body’s ability to respond. The federal Substance Abuse and Mental Health Services Administration (SAMHSA) defines individual trauma as:

***“An event, series of events, or set of circumstances experienced by an individual as physically or emotionally harmful or life-threatening with lasting adverse effects on the individual’s functioning and mental, physical, social, emotional, or spiritual well-being.”***<sup>2</sup>

Trauma experienced as an adult can have a lasting impact on one’s physical and mental health, such that the negative effects of the incident continue to be felt over the long-term.

Job loss is often cited as one of the most traumatic experiences an adult can experience, and recent research suggests that older workers and workers who perceive fewer alternative employment options may experience a higher level of trauma than younger or more mobile workers.<sup>3</sup>

Thus, an individual who has worked at a power plant or coal mine all their life may experience greater psychological or physical effects from a closure than a worker just beginning in the field. Similarly, if a mine or plant closes in a community that is wholly dependent on that facility, the magnitude of trauma that individuals experience may be greater than in a more economically diverse region.

A widespread harm like a mine or plant closure is experienced by many workers individually, but can also be felt at a community level. Community trauma is usually defined as violence (e.g. crime, terrorism, acts of war), historic oppression felt by minority groups, or natural disasters. However, economic factors are increasingly being viewed through a trauma lens. Chronic poverty, generational socio-economic barriers, and similar factors may have a traumatic impact on populations, particularly when co-occurring with high rates of individual interpersonal trauma. Therefore, an economic upheaval in a community that is already battling significant substance abuse or a that has historic racial tensions may face more complexity in transition than a region without those challenges.

Notably, coal-dependent communities may have higher levels of adult trauma simply due to the field of work. Coal miners are more likely to both see and experience serious injury or death in their line of work, but are less likely than the average citizen to seek help for those experiences.<sup>4</sup> Because of the frequency of injury, prescription painkillers are used at higher rates, creating a risk of substance abuse.<sup>5</sup>

When workers have those underlying factors of psychological distress, in a community that is highly dependent on a single industry for employment, with a history of not seeking mental health supports, the challenge of a just transition following a mine or plant closure is not simply about workforce training and economic development. The capacity of a community to address the impact of trauma is vital to the ability to respond to change and sustain it over time.

The experience of adult trauma, both individual and community, presents important issues for community planners and leaders to consider. However, the traumatic experiences of children are just as, if not more vital, to successful transition planning.

# COMPLEX TRAUMA/TOXIC STRESS

Complex trauma or toxic stress refers to traumatic experiences, generally of an interpersonal nature, that are experienced over an extended period of time during childhood. These events activate the stress response system chronically, without ever returning to an emotionally safe state of mind where problems can be solved. Chronic stress — the repeated or continuous exposure to stressors that activate the body's stress response system — can cause lasting mental and physical health challenges by flooding the body with cortisol and altering typical patterns of child development.

Because the trauma experienced by a child is often caused by or linked to a primary caregiver, the child is not only exposed to an excessive amount of stress, but is also deprived of the emotional support and guidance from that caregiver. Having a safe and loving adult to give context to trauma, such as job loss in the family, is a necessary component of resiliency — those critical protective factors that help individuals overcome trauma and integrate the experiences into their lives moving forward.

In 1998, a groundbreaking study was released linking childhood traumatic events to adverse physical, mental, and behavioral health outcomes in adulthood. This study, known as the Adverse Childhood Experiences (ACEs) study, showed that exposure to abuse, neglect, or certain types of household dysfunction prior to age 18 resulted in measurably poorer health, including higher rates of cancer and heart disease, more risky behavior, and lower productivity in the workplace.<sup>6</sup>

The Building Community Resilience (BCR) project at George Washington University takes the ACEs idea a step further, defining a concept of “adverse community environments” that is a corollary to, or underlying cause of, adverse childhood experiences.<sup>7</sup> BCR includes as adverse community environments those with:

- violence
- poor housing quality & affordability
- lack of opportunity, economic mobility and social capital
- poverty
- discrimination
- community disruption

Arguably, a coal-dependent community that loses a power plant and/or coal mining operation could experience multiple indicators of community adversity.

## The ACEs Study

In the mid-1990s, a team of medical professionals undertook a study to determine if there is a meaningful link between certain types of childhood trauma and adult disease. A survey was sent to thousands of members of an HMO in Southern California, asking about abuse, neglect, and household dysfunction experienced before the age of 18. Participants were predominantly white, middle-aged, and college educated.

The study found that exposure to 10 types of adverse childhood experiences correlated strongly with poor physical, mental, and behavioral health outcomes in adulthood: physical, emotional, or sexual abuse; emotional or physical neglect; substance abuse or mental health issues in the home; mother treated violently; separation or divorce; and an incarcerated household member. The number of these experiences a child has is their ACE score.

The study, as well as subsequent research, showed that ACEs are very common — nearly two-thirds of all Americans have at least one ACE, and 20 percent have three or more. The study found a dose-response relationship, meaning that the more adversity a child experiences, the worse the adult health outcomes. Individuals with a high ACE score are more likely to experience mental health issues, engage in risky behaviors, earn less over their lifetime, and be less productive in the workforce. They also are more likely to experience injury, have higher rates of cancer and heart disease, and die younger.

Exposure to ACEs in childhood results in a chronic activation of the body's stress response system, such that the body doesn't fully return to normal functioning, even when the danger isn't present. Ongoing research suggests that the biological impact of toxic stress may be inheritable, meaning that trauma experienced today could impair the workforce for generations.

In communities with high levels of adverse childhood experiences – for example, mental health issues, substance use, violence in the home – the effects of those traumas are exacerbated when adverse community environments are also present. Thus, a region with a history of substance abuse or child neglect that then faces further upheaval when a coal plant closes is confronting a co-occurrence of trauma factors that is particularly complex. That complexity

can lead to generational challenges if not addressed intentionally and systemically. Conversely, an approach to economic disruption focused on reducing adversity both for the individual and the community, while simultaneously increasing factors that contribute to both individual and community resiliency, has a better chance at improving and sustaining overall economic outcomes.

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## RESILIENCY

While traumatic experiences can have a profound impact on an individual, the harm is not absolute. Protective factors help to insulate against the negative effects of trauma and are the key to developing resiliency. Protective factors can be individual or community-based, and are those tools, resources and strategies that allow us to cope with traumatic events.

Planning for a just economic transition can include the cultivation of resiliency and protective factors, helping current workers manage the psychosocial aspects of change while also strengthening families to ensure the healthy development of children, so that the community can thrive over time. Individual protective factors include:

- strong social networks and supportive peers
- healthy diet and exercise
- emotional self-regulation
- positive hobbies or activities
- future-focused mindset

Coal-based communities may have built-in protective factors that can support transition. Coal mining communities are typically seen as tight-knit, based on a shared culture of miners looking out for one another. At the same time, as those jobs go away, the very networks that may have supported workers in the past could begin to weaken, just as workers need that support. Awareness of the importance of peer supports can influence planning for transition.

Along with individual resiliency, communities can also strive to institute broad, systems-level protective factors that have overall benefit to residents. Attention to trauma-informed practices in schools and hospitals can support families through upheaval and change. Regular and constant communication about community planning can help individuals navigate and make decisions. Preserving community gathering areas can allow people stay connected to each other.

Policy choices can also build in protective factors in a community or take them away. In the wake of significant economic loss, coal-dependent communities may feel particularly challenged. In many communities, coal severance taxes or other coal-related revenues are the source of funding for schools, libraries, parks, cultural assets, and similar community resources that can help buffer against trauma. When difficult budget decisions must be made, these vital resiliency assets are often seen as luxuries, rather than strategic tools for success.

# WHY TRAUMA MATTERS IN COAL TRANSITIONS

In a community facing a drastic economic change due to a coal mine or power plant closure, individual experiences can vary widely and make planning a challenge. Plant or mine closures may be felt by some or many as a traumatic event. Some will struggle to overcome the experience due to their own trauma, or due to a perception that there is little opportunity for a fresh start. Some residents may react with temporary sadness or regret but have adequate resiliency to be mostly unaffected over the long-term. Still others may be happy to see a plant close — either due to health concerns or a desire for alternative energy development.

The variety of responses in a community could leave some residents feeling isolated or ignored, exacerbating negative consequences. Further, power plant or mine closure may have economic harm that ripples beyond the initial loss, with secondary or support economies that slowly stagnate. This impact may not be felt for years, well after community is no longer engaged in immediate transition planning.

In communities with high rates of individual or community trauma, traditional models — economic development, workforce training, and labor supports — are likely to be insufficient if the public health aspects of trauma and toxic stress are not included in the discussion.

For example, a typical workforce transition effort focuses on employability and reskilling. However, it may fail to address the psychosocial aspects.<sup>8</sup> Retraining a worker in a new field, after he or she has worked at a power plant for 25 years, may address the immediate employment needs, but will likely not support the worker in managing the loss of identity from the prior career, the lack of recognition of experience in the previous field, or the emotional challenges of starting over.

In general, a workforce scarred by trauma, past or present, is likely to be less productive, less healthy, and may inadvertently impede economic transitions. If the levels of trauma are allowed to spiral, the cost to employers can be expensive.<sup>9</sup>

When high levels of trauma are present in a community, the ability of residents to successfully sustain change initiatives may also be impaired. A community that learns a power plant will close may rally initially, developing a transition plan that gives hope to the residents. However, if a significant portion of the adult workforce is dealing with a traumatic response to financial insecurity, or responding through the lens of their own ACEs, the ability to sustain that initial positive response may be limited as people become overwhelmed and disengage.

As families struggle, the risk of violence, crime, substance abuse, and mental health challenges rises. Children exposed to that toxic stress can struggle in school, requiring costly intervention. As those children move into the workforce, their ability to attend work daily and perform at a satisfactory level is weakened, putting pressure on an economy still trying to recover. When these social issues are not adequately anticipated in transition planning or economic development, systems can become quickly overwhelmed, driving up costs and reducing success rates.

Consider trauma a double threat to a just transition — the challenge for the current workforce, who may have experienced complex trauma in childhood and is now faced with a significant loss, and the danger to tomorrow's workforce that is being exposed to toxic stress now. Bringing an awareness of trauma and resiliency to the forefront of community planning can result in a more comprehensive evaluation of community needs, better anticipation of challenges over time, and improved outcomes for workers and their families.

# SOURCES

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<sup>1</sup> See e.g. Moody, L. N., Satterwhite, E., & Bickel, W. K. (2017). Substance use in rural Central Appalachia: Current status and treatment considerations. *Journal of Rural Mental Health*, 41(2), 123–135. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5648074/pdf/nihms867871.pdf>. See also Knisley, Amelia Ferrell. “Poverty still plagues West Virginia, but signs of hope can be found.” *USA Today*. Feb. 27, 2020. Available at <https://www.usatoday.com/story/opinion/2020/02/27/west-virginia-still-struggles-deep-poverty-but-hope-takes-root-column/4879484002/>.

<sup>2</sup> <https://www.integration.samhsa.gov/clinical-practice/trauma>

<sup>3</sup> Climent-Rodríguez JA, Navarro-Abal Y, López-López MJ, Gómez-Salgado J and García MEA(2019) Grieving for Job Loss and Its Relation to the Employability of Older Jobseekers. *Front. Psychol.* 10:366. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6399146/pdf/fpsyg-10-00366.pdf>.

<sup>4</sup> Murray Law B. Coal Miners dilemma. *Monitor on Psychology*. April 2012, Vol 43, No. 4. Page 40. Available at <https://www.apa.org/monitor/2012/04/coal-miners>.

<sup>5</sup> [https://www.washingtonpost.com/health/flooded-with-opioids-appalachia-is-still-trying-to-recover/2019/07/24/26607328-ad4a-11e9-a0c9-6d2d7818f3da\\_story.html](https://www.washingtonpost.com/health/flooded-with-opioids-appalachia-is-still-trying-to-recover/2019/07/24/26607328-ad4a-11e9-a0c9-6d2d7818f3da_story.html). See also <https://www.sltrib.com/news/2019/08/18/millions-opioid-pills/>

<sup>6</sup> Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, 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 Preventive Medicine*, 14, 245-258. Available at <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/about.html>.

<sup>7</sup> <https://publichealth.gwu.edu/departments/redstone-center/resilient-communities>

<sup>8</sup> Climent-Rodríguez, et al.

<sup>9</sup> “Adverse childhood experiences are a source of many problems—somatic manifestations of health and social problems—treated by occupational medicine specialists. The traditional search for organic causes of illness and injury among workers is expensive for employers, who must pay higher insurance premiums for their workers.” Anda, R.F., et al., “Childhood Abuse, Household Dysfunction, and Indicators of Impaired Adult Worker Performance.” *The Permanente Journal*, 8(1), 30-38. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4690705/>.