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Adverse Childhood Experiences: Antecedents to Occupational Disability and Lost Time

Amanda M. Sizemore
Jasen M. Walker
CEC Associates, Inc.

Vocational disability and lost time can be a consequence of psychosocial and biological dynamics that pre-existed a specific accident, injury, or illness. More specifically, Adverse Childhood Experience (ACE) can predispose employees to being disability prone and lead to long-term absence from work following claimed injury or illness. For the vulnerable employee, the reported injury or illness can serve as an "explanatory event," which can be transformed into an "acceptable disability." A case study depicts how ACEs can be risk factors for occupational disability and lost time. Vocational evaluators, rehabilitation professionals, and medical personnel must be willing to take thorough histories as part of comprehensive rehabilitation evaluations so that these dynamics can be explored and their impact on medical and vocational recoveries can be better understood.

Keywords: Adverse Childhood Experience, work dysfunction, occupational disability, vocational disability evaluation, rehabilitation counseling

All forms of occupational disability and work dysfunction have antecedents, sources, or direct causes. Whether trauma or injury is acute, repetitive, or chronic, the seeds of occupational disability are often sown before an individual with workplace responsibilities manifests reduced job productivity or lost time. Frequently, the claimed source of occupational disability, an accident, illness, or what Weinstein (1978) has called an "explanatory event," masks the underlying cause of what becomes intractable work disability and lost time. The explanatory event, an accident or illness, is often seen in retrospect as a result of multiple biological and psychosocial dynamics that have made the "injured worker" vulnerable to failed medical interventions and prone to continuing lost time. In short, vocational disability and associated lost time can be a consequence of psychosocial and biological dynamics that are antecedent to and not the result of a discrete injury and/or illness.

After a collective 50 years of taking the personal histories of thousands of workers who have claimed vocational disability secondary to a discrete event, such as an occupational accident or personal injury, it has become clear to us that an examinee's background of childhood abuse or history of psychosocial trauma during developmental years can be a significant contributor to the adult worker's continuing absence following the onset of injury or illness. Moreover, we have come to conclude that Adverse Childhood Experiences (ACEs) can be inextricably linked to, if not a root cause of, long-term work absence subsequent to a personal injury, job-related accident, or chronic illness.

ACEs occur within an individual's first 18 years of life and can include a variety of issues. Specifically, ACEs involve emotional, physical, and/or sexual abuse; emotional and/or physical neglect; and various household challenges, including violence against one's mother, substance abuse and/or mental illness in the household, parental separation or divorce, and/or an incarcerated household member (Felitti et al., 1998). ACEs may be chronic and/or traumatic stressors. When persisting over long peri-

ods of time, these stressors can cause significant change to the stress response system, with subsequent consequences to physical and mental health (Field & Ghoston, 2020).

By definition, ACEs can be far removed in time from manifest work dysfunction or workplace disability. However, we have observed, over and over again, in the histories of individuals with occupationally significant intractable pain, somatic dysfunction, substance abuse, depression, and claimed vocational disability that precipitating job absenteeism may be rooted in the person's ACEs. The literature is replete with support for the contention that adult disability proneness and work dysfunctions are linked to childhood trauma. For example, in a community-based pain study, McBeth et al. (1999) reported that the relationship between characteristics of somatization and illness behavior (associated with the presence of multiple tender points) has childhood antecedents.

Other research, such as the work of Robert Anda (2004) and numerous other investigators at the Kaiser Foundation Health Plan have identified childhood exposure to emotional, physical, and sexual abuse; battered syndrome; household substance abuse; mental illness in the household; parental separation or divorce; and incarcerated household members as contributors to adult job problems, financial problems, and absenteeism. Research by Schüssler-Fiorenza Rose et al. (2014) indicates that there is a strong relationship between exposure to abuse and household dysfunction during childhood with self-reported disability during adulthood. Austin and her collaborators (2016) found that a higher percentage of persons with disabilities than those without disabilities reported high exposure to ACEs.

Researchers from the National Scientific Council on the Developing Child/Center on the Developing Child at Harvard University (2014) have reminded us that excessive childhood stress disrupts the architecture of the developing brain. These researchers argue that the gap between science and social policies, including workplace interventions, results in major human and economic costs. It is important to explore methods that would close this "gap" and invest in preventative solutions to decrease the effects of ACE.

Within our experience providing vocational/occupational rehabilitation and evaluation services, we have had the opportunity to examine individuals with ACE and have found that many of these individuals have experienced sporadic work histories, problems in school, addictive tendencies, abusive relationships, and/or aberrant behaviors within the criminal system into adulthood. From an occupational rehabilitation perspective our exposure to individuals with ACE has led us to query: How do employers maintain employees and keep them productive when the causes of occupational dysfunction and disablement may be in the so-called "baggage" that employees bring to the door? Can supervisors be taught how to recognize the behavioral signs of workers at risk? What steps should occupational health professionals take in diagnosing and better understanding disability in the absence of measurable disease? How can schools and employers intervene? What implications do these questions have for the concepts of disability proneness, occupational dysfunction, vocational rehabilitation, and workplace disability prevention and management?

Here, we intend to focus on the questions (and answers) that ACE may offer to the vocational disability evaluator and rehabilitation counselor. In order to formulate questions and propose answers, we turn to the seminal work of two occupational medicine physicians, Behan and Hirschfeld, treating workers in the automotive factories of Detroit, Michigan. These physicians concluded that certain worker personality difficulties, coupled with troubled life situations, equated to an "unacceptable disability." Unacceptable disability was associated with poor self-esteem and work performance, and once an accident or an explanatory event occurred, "unacceptable disability" could be converted into "acceptable disability," as an outside influence takes blame (Behan & Hirschfeld, 1966). Behan and Hirschfeld (1966) offered the following model to illustrate their observations:

- Personality Difficulties + Troubled Life Situation = Unacceptable Disability
- Unacceptable Disability + Accidents, Illnesses, or Alcoholism, etc. = Acceptable Disability

These physicians also found that successful treatment of physical diseases did not necessarily resolve disability. In particular, they concluded that employees under certain conditions would manifest "disability without disease."

The Disability Process: ACE as an Origin

Reflecting on observations in psychiatrically treating troubled workers and validating the insights of Behan and Hirschfeld (1966), Weinstein (1978) wrote, "The Concept of the Disability Process," in the February 1978 issue of *Psychosomatics*. In this influential article, Weinstein spoke of "stages" in the disability process and noted that often there was a crisis build-up in the yet to be injured worker. He theorized that vulnerable character (now hypothesized to be the result of ACE) plus increased job tension leads to "increased somatic complaints, increased physician contacts, increased absenteeism and lateness, decreased productivity, increased irritability, increased blaming, increased depression" (p. 96). Most often we have observed these symptoms and complaints as documented in primary care physician records pre-dating the so-called explanatory event. These records provide a retrospective to Weinstein's recognition that some workers are at risk before the "explanatory event." The explanatory event is a job-related injury, illness, or other personal trauma "seen as explanation and sanction for decline in competence" (Weinstein, 1978, p. 96). Consequences of the event, including lost time and medical investigations, are greater and longer lasting than can be reasonably expected.

Diagnosis, treatment, and failure to find a cure following the explanatory event continue the evolution of the disability process (Weinstein, 1978). But in this article, we would add the worker's "explanatory style" may also contribute to the failure to find a cure and can perpetuate absence from work. We must understand that when positive and negative situations occur, we search for an explanation.

In a reformulated learned helplessness theory and framework of "learned optimism," Martin Seligman and his colleagues (1978) offered a theory of optimistic and pessimistic explanations for negative events, a major component of what is now positive psychology (Seligman & Csikszentmihalyi, 2000). The learned helplessness and optimism paradigms are too complex to explain here, but suffice it to say, all of us have the propensity to learn helplessness or optimism, and our explanatory styles are the keystone to our interpretation of negative and positive events.

We have observed that individuals with ACE have learned that their pain, physical symptoms, and learned helplessness make sense of the illness experience and collectively satisfy the justification to remain out of the workplace, a venue that likely became increasingly toxic before the explanatory event. Individuals with internal, stable, and global explanations for negative events are likely to experience greater levels of anxiety, depression, hopelessness, and helplessness than others who perceive negative events as external, unstable, and specific (Rubenstein et al., 2016). Both an individual's "explanatory style" and Weinstein's notion of an "explanatory event" serve to set the stage for the disability process.

With continuing lost time from work, the disability process reaches a point of irreversibility. Medical failures to resolve symptoms are fueled by ACEs, societal and agency contributions to perpetuating disability, such as workers' compensation financial resolutions and Social Security Disability Insurance awards. Continued lost time crystallizes disability and transforms learned helplessness into chronic incompetence. In the following case study, we will illustrate how the injured worker, with a significant history of ACE, and her supervisor, as symbolic of her abusive and persecuting father, help create and perpetuate the lost time process.

Norma Rae: A Case Study

A woman in her early 40s was referred by her employer's insurance carrier for vocational evaluation and rehabilitation, including potential job placement. For the purposes of this case study, we will call this individual, Norma Rae, as her social and occupational histories have reminded us of the character Sally Field played in the award-winning movie by the same name.

Norma Rae had a history that included a climb, albeit short-lived, to a leadership position in a textile factory. She had sustained a work-related injury two years prior to our examination. Norma Rae had run the full gamut of physical investigation and rehabilitation. She had undergone imaging studies, electrical studies, diagnostic arthroscopic procedures, and physical medicine and rehabilitation, including physical therapy and work hardening. Numerous independent orthopedic examinations failed to find a disease or diagnosis to explain her continuing problems. Some hypothesized reflex sympathetic dystrophy or complex regional pain syndrome as a cause for her continuing muscle atrophy and skin changes. She grew depressed and most observers concluded that her physical complaints were subjective and in excess of the objective findings. The employer refused to return Norma Rae to work unless she was capable of "full duty." It became our job to "rehabilitate" Norma Rae.

Until our intervention, no one had taken the time to gather a complete history from Norma Rae. The following is a synopsis of what she told us. Norma Rae had grown up in the mountains of West Virginia. She was the oldest child in a family of nine offspring. Her father, an abusive alcoholic, worked intermittently as a coal miner, and her mother, a seamstress, toiled from her home to supplement the family's meager income. Life was harsh. Being the oldest, Norma was often given adult responsibilities, and at an early age. She was "parentalized" by having to care for her siblings as well as mediate her mother and father's arguments. Norma Rae's father verbally and physically abused his wife. He frightened his children, and during more than one drunken blackout, he sexually assaulted Norma Rae.

Eventually, Norma Rae's mother became so desperate that she took two of the youngest children and left the house to live with her sister. Her mother had convinced her that this would only be a temporary situation and she would be back to retrieve Norma Rae and her remaining siblings. Unfortunately, this exacerbated the father's drinking behavior, and for the next six weeks, life was "hell" for Norma Rae and her siblings. When her mother returned, it was only a short time thereafter that she became ill with ovarian cancer. She died six months later and never fulfilled her promise to Norma Rae.

Life at home only became worse for Norma Rae following her mother's death. She was 15 years old when the West Virginia Bureau for Children and Families finally intervened. By that time, Norma Rae's father was dying of both pneumoconiosis and liver disease. She was subsequently given the option of foster home placement or relocating to Pennsylvania to live with her maternal aunt. Children's services were forced to place Norma Rae's brothers and sisters in different homes. She vowed to find work and earn enough to reconstitute her family and move them to Pennsylvania.

Norma Rae's father had inadvertently taught her how to "survive," and her mother consciously taught her how to sew. Norma Rae established herself as a hard-working production machine operator in a Reading, Pennsylvania textile company. She eventually moved into her own apartment and was able to establish enough of a home to become legal guardian of three brothers and sisters. She was 19-years-old. With time, Norma Rae established herself at work, and after several promotions, she found herself in charge of a floor of machine operators. Without an abusive father in her life, the intrusive memories of "growing up" in West Virginia faded. Life for a time actually seemed pleasant and rewarding to Norma Rae.

Unfortunately, the textile factory in which Norma Rae seemed to prosper was privately owned and not unionized. Norma Rae began to experience conflict with management, as she felt the need to help her non-union "brothers and sisters" at work receive better pay, improved work conditions, increased benefits, and worker termination procedures. The American Federation of Labor & Congress of Industrial Organizations recruited Norma Rae and trained her in union organizing and recruitment strategies. She often thought that if her father had union protection, he would have then been a better person. Norma Rae felt determined that she had to create a safer work environment for the men and women she supervised.

Months following Norma Rae's union activities, the company owner placed his 39-year-old son in charge of the plant. By that time, Norma Rae had been there eight years and the owner's son had only been told that she could be trouble. He was strangely familiar to Norma Rae, perhaps because he fre-

quently harassed women and probably because of the alcohol that she could smell on his breath when he returned from his extended lunch breaks. The new manager and Norma Rae did not have a good working relationship, and slowly but steadily, the tensions between them increased.

The owner's son was placed in command at the same time a recession brought a downturn in the textile market. He felt his father's pressure to maintain profit. However, orders were not coming in and working conditions only worsened as he attempted to curb costs. In Norma Rae's mind, regardless of the economic climate, the plant's employees still had rights to work in a safe environment. Rumor had it that if Norma Rae continued to push for more rights and benefits, the plant manager would find some way to "get rid of her." However, Norma Rae felt compelled to protect her co-workers.

Norma had drawn up a petition, reluctantly signed by 95 percent of the 115 production operators, who insisted there would be a work stoppage unless seams in the concrete floor of the factory were removed so that material handlers would not continue injuring themselves while pulling bundle carts over them. Following an emergency rally with the plant manager, at which time Norma Rae presented the petition, the plant manager visited her, threatened her, and ripped up the petition. As she attempted to gather support from her co-workers, Norma Rae quickly realized that the vast majority of them would rather do anything to keep their jobs in a threatening recession than to walk out over a safety issue. Rumors circulated that Norma Rae's time was up.

No one knows for certain if it was a genuine accident and injury, but two days later, Norma Rae tripped over one of the concrete seams and injured her knee. Two years later, after exhaustive diagnostic procedures and attempts to physically rehabilitate Norma Rae, she remained on workers' compensation. The horrors of her childhood had resurfaced, and she experienced anxiety, depression, and panic attacks. She was medicated with antidepressants and powerful analgesics, including the pernicious narcotics. Ultimately, after several unilateral attempts by the employer's insurance carrier to terminate her workers' compensation benefits, Norma Rae was referred for vocational rehabilitation.

Now represented legally, emotionally depressed, and over medicated, returning to gainful activity was the last agenda that Norma Rae was willing to consider. For her, betrayal was the only truth that stuck.

A retrospective cost analysis found that with wage replacement as well as medical, legal, and administrative claims expenses, Norma Rae's "accident" cost the employer's insurance carrier more than $675,000 before they reached a $95,000 commutation of her benefits. Notably, this was only a portion of the total costs that were precipitated by the crack in the factory floor, as Norma Rae's absence led to an informal, but nonetheless, evident slowdown in the workplace following her accident.

It should be noted that until Norma Rae was assigned to us for vocational rehabilitation, no one that was in charge of the responsibility of assisting her had ever taken her complete story. Obviously, her history was more than that of a troublemaker falling over a factory floor crack that required repair. Vocational evaluators, rehabilitation professionals, and medical personnel must be willing to take thorough histories as part of comprehensive rehabilitation evaluations so that these dynamics can be explored and their impact on medical and vocational recoveries can be better understood.

Our Take: Disability Proneness Stemming from ACE and Learned Helplessness. Potentially Remedied with a Comprehensive Systems Approach

After a collective five decades of performing vocational/disability evaluations, we believe that an individual's ACEs and learned helplessness can cause and perpetuate chronic lost time following accident and/or injury. Elsewhere, we have hypothesized that certain individuals are "disability prone." Psychological vulnerability to pain and disability is not a new concept, but one that is frequently overlooked. An individual's childhood trauma and ACE become significant adult risk factors for occupational disability and lost time, particularly when a worker is under stress or in conflict at home and/or work.

We believe that very thorough, complete histories conducted by healthcare personnel and rehabilitation providers are critical methods in vocational disability evaluations designed to help people return to work. Psychometric assessment, including objective personality testing, will assist the evaluator in understanding an individual's psychodynamics and vulnerabilities. The stressful and traumatic exposures affecting the neurodevelopment of children lead to disability proneness. A more complete understanding of the life course associations between ACE, occupational disability, and the impact of exposure to multiple types of childhood adversity on disability and health are needed to better inform human resource managers, medical professionals, and rehabilitation providers.

From disability management and occupational rehabilitation perspectives, we have queried: How do employers maintain employees and keep them productive when the causes of occupational dysfunction and disablement may be in the so-called "baggage" that the employees bring to the door? Can supervisors be taught how to recognize the behavioral signs of individuals at risk? What steps should occupational health professionals take in diagnosing and better understanding disability in the absence of measurable disease? How can schools and employers intervene? As queried earlier, what implications do these questions (and answers) have for the concepts of vocational disability proneness and occupational dysfunction?

With insights from the observations of Behan/Hirschfield (1966), Weinstein (1978), and Seligman (1978) along with contributions of ACE researchers, it is strongly suggested that we need to be more thorough and comprehensive in our early evaluations of an injured worker who has begun the lost time process. More importantly, it is abundantly clear that healthcare systems, schools, social agencies, and human resource departments supporting employee assistance programs need to collaborate and bridge the gap between childhood trauma and resilience in the adult workforce.

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Author Notes

Amanda M. Sizemore, MS, IPEC, is a Vocational Evaluator, Psychometrician, and Supervisor at CEC Associates, Inc. She is an International Psychometric Evaluator for which she is certified through the American Board of Vocational Experts. Ms. Sizemore is also a Disability Analyst and Fellow certified through the American Board of Disability Analysts.

Jasen M. Walker, EdD, CRC, CCM, is an Emeritus Vocational Evaluator at CEC Associates, Inc. He is a Diplomate with the American Board of Vocational Experts and a Clinical Associate with the American Board of Medical Psychotherapists. Dr. Walker is licensed as a Professional Counselor and Rehabilitation Counselor and is certified as a Managerial Mediation Trainer, Rehabilitation Counselor, Case Manager, and Disability Analyst.