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## How ACEs and the ‘Theory of Everything’ can help build healthy communities

### Summary

Jane Ellen Stevens is founder and publisher of the ACEs Connection Network, which includes, [ACEsTooHigh](#) a news site for the general public, and its accompanying social network [ACEsConnection](#). The network focuses on research about adverse childhood experiences and how people are implementing trauma-informed and resilience-building practices based on that research. In this talk Jane outlines the five parts of the “theory of everything in human development”: the CDC / Kaiser Permanente Adverse Childhood Experiences Study (ACE Study) and subsequent ACE surveys and studies (epidemiology); how toxic stress from ACEs affects the brain (neurobiology) and the body (biomedical consequences of toxic stress); how ACEs are passed from one generation to the next (epigenetic consequences of toxic stress); and resilience research, which takes advantage of the brain being plastic and the body wanting to heal. Based on this research, people, organisations and communities are putting into place trauma-informed and resilience-building practices that are already showing remarkable results. Jane describes a number of these stories and the lessons being learnt. Jane concludes by outlining the process of starting to become a trauma-informed community. This is a profound shift from a longstanding approach to changing human behaviour of blame, shame and punishment to one of understanding, nurturing and healing.

### Introduction

We are entering an age that might be the modern equivalent of the Renaissance, a new understanding about ourselves, why we behave the way we do, and how we can solve our most intractable problems, such as poverty, chronic disease, mental illness, and violence. Some people call this new understanding the “theory of everything”, a “unified science” of human development. Jane calls this ACEs Science. This talk covers the five parts of this unified science, how it is being implemented, the remarkable system changing lessons learnt so far and how all this together offers us the ability to create self-healing communities.

### The ACEs studies

The starting point is the Center for Disease Control and Protection (CDC)/Kaiser Permanente Adverse Childhood Experiences Study (ACE Study) published in 1998. The study looked at ten types of childhood adversity, different types of abuse and neglect, and also five household dysfunctions. It is important to recognise that although the study looked at ten things, these are not the only ten. There are other types of trauma that people experience that have the same effect. Subsequent ACE surveys and studies are starting to incorporate these other types of trauma depending on the populations they are looking at. People are also beginning to look at system ACEs for example a paediatrician has added “involvement with the child welfare system” to her list.

The original ACEs study revealed four key findings:

1. ACEs are extraordinarily common.
2. An unmistakable link between adverse childhood experiences and the adult onset of chronic disease, mental illness, violence and being the victim of violence.
3. The more types of adversity the worse the consequences; they have a cumulative effect.
4. ACEs contribute to most of our major chronic disease, mental health, economic health and social health issues.

Repeat studies have found similar results. If you have one ACE you are likely to have more. Childhood adversity is not usually just one thing, it is a complex package.

### **How toxic stress affects the brain, the body and genes**

So why do ACEs cause so much damage? What happens to your brain when you experience ACEs? Bruce McEwen from the Harvard Centre of the Developing Child has developed an understanding of the neurobiology of toxic stress. More detail can be found in previous talks he has done as part of this seminar series ([Seminar Series 3, lecture 3](#), and [Seminar Series 11, lecture 6](#)). We understand now that there is *positive stress* which we all need to grow and thrive, *tolerable stress* where we have a stress response but then recover, and *toxic stress*. Toxic stress is extreme, frequent or extended activation of the body's stress response without the buffering presence of a supportive adult. This is the type of stress that is very damaging.

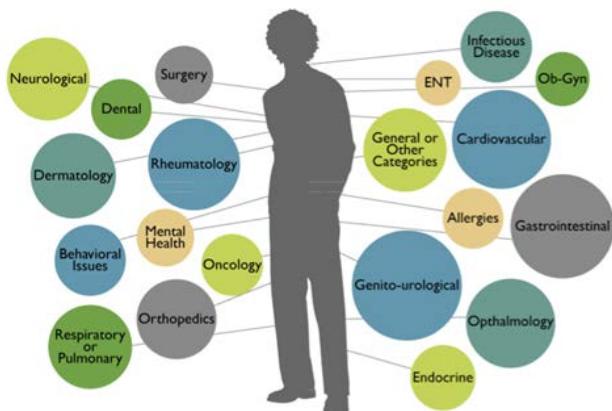
This long-term toxic stress that comes, for example, from living with a physically or verbally abusive alcoholic parent, actually damages the structure and function of the child's developing brain. Children experiencing this are constantly in fight, flight or freeze mode and are functioning from their 'survival brain' rather than their 'thinking brain'. Children experiencing trauma act out, they can't focus or sit still or they withdraw. That they are responding in these ways is normal and to be expected but what this means is that they cannot learn. What often happens is that schools traumatise them even further by ignoring them or kicking them out of school.

As these children get older they cope by drinking, overeating, using drugs, smoking and also by overachieving or doing 'thrill sports'. To them these are solutions not problems. Jane shared some of her own story in which ways of coping with her own high ACEs score included using cocaine for a while and then moving on to skydiving. She explained how for the time she jumped out of the plane until her parachute opened she thought of nothing else but being in the air – it was a release and a relief from anxiety and depression. Telling someone how bad something is for them is not going to help if it is working for them. First they have to be in a safe place before they can start using their thinking brain to think beyond the next fix, or the next way of soothing themselves.

The third part of the ‘theory of everything’ is that stress also affects the whole body. Lots of studies have shown the link between stress and a whole variety of conditions.

There are also epigenetic consequences of stress. This is the fourth part of the theory. Rachel Yehuda delivered a [GCPH Seminar Series lecture](#) about this so you can find more details on the GCPH website. Essentially we are born with the genes we are born with, but they turn on and off hundreds of times a day. If you are living in a stressful situation, the genes that are turned on to deal with that, stay switched on, and that is what you can pass on to your children and your grandchildren and your great grandchildren, if there is no intervention.

#### Consequences of Lifetime Exposure to Violence and Abuse



### Resilience research

The final part of the theory of everything is the good news: our brains are plastic and our bodies want to heal. Research in Stanford is looking at teams with high ACEs scores and giving them cognitive behaviour therapy and is showing their brains healing. We know a lot about how to increase individual resilience to stress and how to reduce stress in our bodies and brains including: meditation; exercise; getting enough sleep; eating well; having safe relationships; living in a safe place; asking for help when we need it. This is all simple advice but hard to implement especially if you have a history with a high ACEs score. We can also build resilient families. We know that educating parents about ACEs is very powerful. But to have healthy families you also have to have healthy organisations, healthy systems and healthy communities to support families. There is no point just focusing on the children or the families, we have to focus on the entire community across all sectors if we are going to have any chance of reducing ACEs in our population. So the frontier of resilience research is in communities and systems.

### Implementation and lessons learnt

ACEs Connection has lots of stories about how people are implementing trauma-informed and resilience-building practices. About how they are creating organisations and systems that prevent, as well as stop, traumatising already traumatised people. Trauma does not just happen in childhood it happens throughout life.

Stories, such as Lincoln High School in Walla Walla, Washington, where the head teacher learnt about ACEs science and changed the school’s whole approach to discipline. Instead of getting cross with students and saying: “What’s wrong with you? Why did you do that stupid thing?” staff learnt to ask: “What’s happened to you? And how can we help you?” In one year, suspensions dropped by 85% and expulsions by 40%. After four years, suspensions dropped by 90% and they stopped expelling students. All sorts of other indicators improved too, including: test scores and graduation rates; truancy rates and absenteeism; more students going to college or training after school. The young people learned about the ACEs study and developed their own ACEs survey adding in lots more questions. This story has been made into a documentary by [James Redford called Paper Tigers](#).

An important lesson learnt here is that the school were pioneers and they did not pay much attention to vicarious and secondary trauma. The head teacher became burnt out, and had to take early retirement on medical grounds, although he has now recovered. So it is important in this work to take care of yourself too. All the most successful projects have addressed this and found ways to protect their staff.

Dr. Vincent Felitti, the co-founder of the original study, has suggested that everybody in the caring professions should know about ACEs and integrate this in to what they are doing, so they can have a role in supporting the people they work with. An example of someone who has done this is Dave Lockridge, originally a pastor of a church in a very small, poor town in California. He has developed a workbook that combines the epidemiology of ACEs and the neurobiology of toxic stress with bible studies. He communicates to people who speak this language and would never be able to access a therapist. The stories of change among people who have given up on themselves, and whom society has also given up on, are remarkable.

There are trauma-informed judges and court rooms including one in the USA called Safe Babies Courts, where they have completely changed the way they work with families. Paediatricians in Portland are asking parents about their ACEs history. The Family Centre in Nashville, Tennessee has included education on ACEs in the class they do for parents who are mandated to attend by the courts. As a result of learning about ACEs, these parents, who have very high ACEs scores themselves, say that this explains their lives. They want to know how not to pass their ACEs on to their children.

A toolkit and programme called 'Near at home' has been developed in the USA for nurse home visitors. 'Near at home' sees learning about ACEs as a social justice issue. This is not a deficit based approach as it does not ask "What's wrong with you?", rather, it asks "What's happened to you?". It helps people to reframe their history so they know that: they weren't born bad; they are not responsible for their childhoods; they have coped appropriately in the best ways they could till now; and that they can have hope to change their lives and their children's lives.

Educating people about ACEs science does four really important things: it engages the people you serve; it empowers people; it changes their understanding of others' behaviour; and it opens a channel for them to tell you what they need. There are lots of trauma-informed programmes that don't include this education about ACEs science, either for staff in the organisation or the people they are serving. These programmes can make progress, but not as much as when the education is included as well. In other words you have to walk the talk. You have to look at your own organisations through a trauma-informed lens. ACEs touch all of us. We swim in the same ACEs ocean and breath the same ACEs air. Even if we have an ACEs score of zero we are affected by other people who have high ACEs scores in lots of different ways.

Wisconsin is the first state in the USA that is addressing ACEs in a really organised way. It started with a grass roots movement over a number of years. The governor has now agreed that the seven large state agencies should become trauma informed. This state-wide programme was launched in April 2016 so it will be very interesting to see what happens.

This knowledge touches everyone, every single sector in the community, every system and person in some way. The ACEs Connection network aims to provide the tools that communities need to implement this. The goal is that the entire community integrates trauma-informed and resilience-building practices based on ACEs research. The process to

educate, engage and activate everyone is not by saying: “Here’s what you have to do” but instead: “Here is this knowledge, what do you want to do? How can you use this knowledge to do things differently, and how can we support you to do that?”. The final part of the process is telling a story and celebrating your success so you can inspire more people to start doing this.

## Conclusion

Taking the long view, this is a profound change in the way we have been for hundreds of thousands of years where, in trying to change people’s behaviour, we have used **blame, shame and punishment**. We are so steeped in this, that it is our knee jerk reaction. Our systems are built around **blame, shame and punishment** even our public health systems. But with this new knowledge we have the potential to move to understanding, nurturing and healing and to build our systems around that instead. There is enough information now in every sector to show that it works. There is certainly enough information to show that the current way is not working as we have chronic diseases out of control, way too many people in prisons, school systems that are on the edge, a medical community that is overburdened. This information about ACEs is showing us a way out of this situation. It goes from “What is wrong with you?” to “What happened to you, and how can I help you?”. Then not “I am going to heal you” but “How can I help you to heal yourself?”.

Dr Robert Anda, co-investigator on the original study, has said that with this information comes the obligation to use it. So from now on Jane will be watching how we use this information and reporting about what we tell her. Because the more she can tell and share these stories then we will inspire other people as well.

The views expressed in this paper are those of the speaker and do not necessarily reflect the views of the Glasgow Centre for Population Health.  
Summary prepared by the Glasgow Centre for Population Health.