

## Stress – Good Cop or Bad Cop?

by David Brown, Educational Specialist

Many things in life that are conventionally regarded as bad actually serve very important positive functions for us, as long as we can manage and respond to them appropriately. Examples of these things would include pain, fear, tiredness, change of all kinds, and also stress. In time-limited and manageable doses, stress is essential to life, a significant source of brain development and learning, of positive self-image, of effective problem-solving abilities, and of good physical and mental health. A few years ago I was preparing a talk about stress and I chose the title *Stress - Good Cop or Bad Cop?*, and at the same time Catherine Nelson, a professor of education at the University of Utah, was also preparing a presentation about stress, and she used the title *Stress - The Good, the Bad, and the Ugly*. We were both trying to make the point that stress can be good or bad depending upon a whole range of factors both inside the individual and outside in the environments in which they find themselves.

In her recorded presentation, Dr. Nelson (2009) gives a clear explanation of the physiology of stress, including the hormones involved (adrenalin, norepinephrine, and cortisol), the functions that they serve, and the processes by which we use and then discard these stress hormones once the challenge is met. When we face a threat or some kind of challenge the main job of these hormones is to improve attention and focus, release glucose from energy stores, and increase blood flow to the skeletal muscles and oxygen flow to the brain. Overall this gets us into a high state of alertness, what is called the “fight-or-flight” state, so that we are able to think and plan and perform as well as possible in the challenging situation, whether we have been planning and anticipating (or even choosing) it ourselves, or even if it has come to us suddenly and unexpectedly.

### **What is stress for (i.e., the good cop)?**

Although people are inclined to think about stress only when it is excessive and a thoroughly bad thing, it actually serves many crucially important positive functions, as long as it is time limited and can be brought under control easily and quickly. Without regular and repeated exposure to stress we would fail to acquire many vital life skills. Stress helps us to work out and try to deal with the many challenges that life presents to us; it also protects us from harm and helps us learn how to protect ourselves in the future. Exposure to stress helps us learn to cope and learn how to remain calm but alert (known as self-regulation). Stress helps us to develop effective problem-solving abilities, and these give us the opportunity to acquire a memory bank of effective strategies. One of the effects of norepinephrine is that it promotes brain development, so that as

we deal with the challenge we will create new neural connections that will provide examples for us that we can recall in the future when we have to deal with similar situations. Stress even encourages risk-taking which helps us to maintain and develop our skills. Just think of the stress involved for all children in learning to stand and walk independently and unsupported, climbing onto and jumping off the couch for the first time, learning to ride a bicycle or learning to swim, completing a crossword puzzle or playing chess, climbing a mountain, watching a scary movie, making a presentation to the class, baking a cake, making a parachute jump, even cleaning out the refrigerator! Responding to, and even initiating, these activities is motivating and helps to keep life interesting, and they can also make us feel good about ourselves even if the final outcome might not be totally successful – that wonderful “I did it” feeling that can be so satisfying and so exhilarating. Indeed, it is when the outcome is not totally successful that we acquire new learning.

### **When, and why, can stress be bad?**

To be helpful stress has to be time limited. The stress hormones that are so helpful when we need to deal with a challenging situation, whether self-selected or imposed upon us by the outside world, can create serious problems if they remain active in our systems for too long. Cortisol, in particular, can damage brain cells, weaken memory, and block effective thinking if high levels of it continue to be produced or if the body cannot successfully flush it away when it is no longer needed. Over time the hormone itself can interfere with the brain’s ability to reduce and control further cortisol production, so that a kind of vicious circle results. When stress hormones remain at high levels for too long the condition is described as toxic stress. Over time even non-stressful situations may come to seem stressful because of the inappropriate production of cortisol, and the individual might become generally very over-responsive (Dr. Nelson speaks about responses which are way over the top and inappropriate), or alternately they may become very non-responsive and overwhelmed with feelings of powerlessness and helplessness. Younger children are particularly vulnerable since exposure to persistent excessive levels of cortisol can actually distort and damage the growth of their brains – as the National Scientific Council on the Developing Child (2005) puts it in the title of one of its publications, *Excessive Stress Disrupts the Architecture of the Developing Brain*. For all of us, toxic stress can lead to a significant range of most serious issues that include physical health (diabetes, blood pressure and heart problems) and mental and emotional health (depression, alcohol and drug abuse, poor memory, poor self-image, inactivity and feelings of helplessness).

### **What does stress look like?**

When a person is experiencing toxic stress the profound feelings of helplessness often result in one of two very contrasting states - either extreme over-arousal and hyper-activity, or extreme under-responsiveness and inactivity. One great difficulty with discussing stress is that people tend to have a rigid and stereotyped idea of what a stressed person is like, all because of this dichotomy – they either imagine someone running around crying and yelling and whining and tearing their hair out, or else they think of a person sitting and hardly moving, looking worried, nail-biting, chain smoking, and drinking excessive amounts of alcohol. In fact, stress, both good and bad, can show in many different ways for many different reasons. One of the

main challenges in living or working with children with deaf-blindness is that their expressive behaviors can be subtle, or inconsistent, or idiosyncratic, and sometimes all three at once. Not only might it be hard to tell if they are stressed but it might be hard to tell how they are feeling at all. And sometimes their expressive behaviors are downright misleading in conventional terms (as in “not waving but drowning”):

- A child may laugh, and do so more and more as the stress increases, only to suddenly burst into tears or throw a tantrum (this kind of response is often seen in children with high muscle tone due to cerebral palsy)
- A child may flap their hands to show both pleasure and stress, so that the relative contexts of the behavior become more vitally important to help us to interpret meaning successfully
- A child may persist in indulging in a self-stimulation activity even though it is making them more and more stressed, as if they are hooked and cannot help themselves
- The presence of a significant physical disability is likely to both limit and distort motor behaviors so that a conventional interpretation of them is incorrect
- A child who looks very comfortable and content might in fact be feeling a profound sense of helplessness based on many earlier negative experiences, and might find it so difficult to deal with any interactions or proffered choices that they simply tune-out from their immediate environment
- And anyway, as with all young children there will be difficulties in controlling arousal levels and self-regulating effectively so that ‘good stress’ situations can flip over into “bad stress” situations very suddenly (as when a child is clearly having a lovely time but is getting much too over-excited, so that somebody will say “Oh-oh, I think there will be tears soon.”)

The Personal Passport approach (Brown, 2004) is an effective way to start the process of organizing existing knowledge about the child, disseminating it to others, and then deepening and extending this knowledge. Of course we also all have our own individual styles, so that some of us need more intense and more persistent stress than others in order to respond and get things sorted out. These variations in individual temperaments should be clarified by a Personal Passport.

### **What helps?**

If we are trying to work out what causes toxic stress in children it might be most effective to come in from the other direction and consider what helps. In her presentation Dr. Nelson offers a list of protective factors, and this should point us towards solutions, or at least improvements, that we could make in the child’s life:

- ❖ Secure attachment
- ❖ Good physical health
- ❖ Strong social network

- ❖ Responsive environment
- ❖ Feelings of competence
- ❖ Clear patterns of arousal and relaxation
- ❖ Physical exercise
- ❖ Relaxation opportunities
- ❖ Temperamental characteristics

Anyone familiar with our field will see at once that almost all of the factors on this list will be compromised by the presence of deaf-blindness, and even more intensely compromised by the additional presence of all the other issues with which we have become familiar in our client group. Many of the ideas and approaches that have become basic and universal strategies for us in the field of deaf-blindness can be seen to have the aim of compensating for the shortfall in these protective factors. The list offers us clear pointers for the advice that we give to both families and local professional teams, and in itself is a complete vindication of the concept of the Intervener.

In my reading about the development of social and emotional maturity, a very similar list of protective factors emerges from many different writers. And in an article (Brown, 2008) that I wrote a few years ago I refer to Jean Ayres' explanation of the basic tenets of Sensory Integration Therapy, which also match very closely with parts of Dr. Nelson's list. Ayres writes about "The Just Right Challenge," which means that just the right manageable amount of stress is involved, then "The Adaptive Response", which is where the stress facilitates thinking, attending, planning, action, and evaluation, so that success is achieved, the problem solved, and new learning occurs which can be stored in the memory bank for future reference. Ayres then writes about "Active Engagement," so that the child is motivated to be involved and is re-organizing their own brain through participation in the activity, and finally she lists "Child Directed," so that the child feels a sense of control and empowerment and develops a positive self-image in addition to all the other benefits that accrue. So there is agreement across authors and across professional fields about these issues, stated in many different ways using different vocabularies and different theoretical frameworks.

Unfortunately most (I am tempted to say "all") of this seems to run counter to the most pressing priorities and expectations that we encounter in the field of education today. Why does the "just right challenge" have to be so elusive and so undervalued? Would it not be exciting and refreshing to see schools investigating the best ways to provide appropriate amounts of "good" stress while simultaneously minimizing the presence of "bad" stress for each individual student throughout the school day? This would alter the terminology that people use to discuss and even to think about students with deaf-blindness, and might help to move us all away from excessive fixation on concrete skills and academic attainments to the virtual exclusion of all

other considerations. I long for the day when class teachers routinely initiate conversations with consideration of the student's self-regulation abilities, their feelings of competence, and their relationship-building skills. To return to the true essence of "education" we need to follow Dr. Nelson's suggestion that we need to "make sure that each individual is a do-er not a done-to."

### References

Brown, D. (2004, Fall). "Knowing the Child"—Personal Passports [Electronic Version]. *reSources*, 11, 1-4. (Available at <http://www.cadbs.org/newsletter/>)

Brown, D. (2008, July-December). The sensory integration perspective and what it offers us in the field of deafblindness, Part 1. *DbI Review*, 42, 22-26. (Available at: <http://www.cadbs.org/publications/>)

National Scientific Council on the Developing Child (2005). *Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper No. 3*. Retrieved February 22, 2011, from [www.developingchild.harvard.edu/library/reports\\_and\\_working\\_papers/working\\_papers/wp3/](http://www.developingchild.harvard.edu/library/reports_and_working_papers/working_papers/wp3/) (See also *Working Papers Nos. 1, 2, 5, 9 & 11*.)

Nelson, C. (2009). *On The Edge: The Impact of Stress on Children with Severe Disabilities*. Retrieved February 22, 2011, from the Idaho State Department of Education, Special Education Idaho Training Clearinghouse website: <http://itcnew.idahotc.com/dnn/Webinars/PastWebinars.aspx>