

Applied Neuroscience in Clinical Practice and Education: What Difference Does it Make?
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Personally, I believe that neuroscience offers clarity and proof that people are generally good and need to experience compassion. I believe neuroscience reinforces the need to depathologize. I think it reinforces that we are all largely the same in the components we possess, but we're all just dramatically different from one another in the way we are coded (and continuously recoding). Because there are 7.5 billion people on the planet and each person has about 100 trillion synaptic connections, where our experiences/memories are stored, it's not even mathematically possible for any 2 people to be the same. So, neuroscience is forcing us to learn to accept differences and meet individuals where they are; to engage with each individual's personal realities.

Neuroscience also teaches us to continue to fight for healthy environments for people. It has made me a better clinician and it has made me a better human. Neuroscience has forced me to better myself and ensure I am bettering environments for any individual I work with, personally and professionally. Bruce Lipton, a cell biologist, speaks about how if you have 3 different cloned cells and you put them in 3 different petri dishes, it's not the cell itself that determines the health of the cell, it's the environment in which the cell is placed. It's even the environment that determines what a stem cell becomes. And what are human beings? Bundles of cells. We must consider every cell as much as humanly possible.

Another benefit of understanding how to apply neuroscience is the knowing about the importance of change and "failure" for growth. Applied neuroscience has helped me as a professional teach my clients to thrive in failures and to grow from adversity and it has helped me teach clients how their brains do that most effectively. It has helped me help them understand how to work with their brains and not against them. It has helped me help my clients to consider their entire system; to know the people around them need the same considerations for their best mental functioning and that healthy relationships are those where 2 people take responsibility for both individual's equal value. It helps me teach them that they affect one another and are affected by others, not only at a cellular level, but the quantum level; that our energy, things we can't see, do exist and do apply force in our lives.

On a personal level, applying neuroscience has made it possible for me to move past uncomfortable experiences and hurtful people, remove ideas of intention, to respect the automatic and mechanical function of the nonconscious mind as the heaviest weight in decision making, especially under stress, both for myself and for other. I have learned that prior learning experiences, whether implicit or explicit learning, drive the responses we make, based on our automatic predictions. I see most people in the purest light with a clear and unintentional infallibility, which places demands on myself to require tolerance for all people.

Neuroscience gives me hope! In the political chaos that currently encompasses the United States, I am hopeful, not only for a political change (!), but also for the humanity that does exist in people. I know that all humans begin their journey in life with the drive for safety, connection, control, motivation, and self-actualization and that as life goes on and the synaptic experiential

storage increases in each person, that each individual's needs is defined differently based on experience. As a 10th grade dropout with an ACE's score of 8, who didn't receive all those needs until I was in my 30's when I met the human who offered me all of them (my incredible husband), I am here to say it's possible to unlearn responses and to erase emotional learnings!

I am hopeful that as the word gets out about what we know from neuroscience, that people will be inclined to improve their tolerance for and attach less meaning to differences as well as to their own experiences. After all, we are all responsible for what others say and do because we are the ones that give it meaning for ourselves. Meanings, beliefs, knowings, schemas, emotional learnings... whatever you want to call them, are flexible and can be changed at the neural level. And the electrochemical messages that tell us to take or not take actions to change with them also change. I am sure the majority of people on this planet are generally good and have an interest in such change, so I believe strongly that through compassionate considerations for past experiences and the sharing of easy to understand neuroscientific components to all people that the world can be a better place. I want to continue to be a part of THAT!

I want to change how the mental health system is viewed, which means we have to change how the mental health system views people. Nobody sucks on purpose and we are all products of our experiences. I believe most people still possess the curiosity, interest, imagination, and innocence that began in childhood and they just need someone to connect with that part of them. Neuroscience verifies that with the knowing that at 3 years old we have more neurons than at any point in our lives and that as life goes on our brains form association after association. Jon Connelly, the developer of Rapid Resolution Therapy, talks frequently about this, saying, "we put the flies in before the screens are up." I am here to say, we can take the screens off. We can learn and we can UNLEARN. We can remove emotional responses that WERE normal, but are just no longer effective. This context change stops us from continuing to try to be "NORMAL", because remember, there is no "NORMAL"! It's not even mathematically possible. Instead we're just working to be more effective. No guilt, no shame, no embarrassment, no resentment, no preoccupation necessary, because science also proves to us that it's also not possible to have ever been any better than you were! We're just always learning only to be more effective for ourselves and others, because it's better for the world when our brains are working optimally. I hope all of you will also continue doing your part to better our world through neuroscience and become a nutrient to your environment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mary Bowles'. The signature is fluid and cursive, with a large 'M' and 'B'.

Mary Bowles, MA, LMFT, RRT, MIAAN