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NARRATIVE THERAPY AND INTERPERSONAL NEUROBIOLOGY: REVISITING CLASSIC PRACTICES, DEVELOPING NEW EMPHASES

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This article reviews some of the recent advances in brain research and the growing field of interpersonal neurobiology, which we believe supports a number of narrative therapy premises. Highlighted is the potential usefulness of thinking about unique outcomes as "moments" of "affect-infused" experiences. The concepts and theory proposed are illustrated by the description of three therapy sessions with a 28-year-old woman struggling with anxiety and depression, and a transcript of an intentionally "affect infused" re-authoring conversation.

The advent of the functional MRI (fMRI) in the last two decades has allowed neuroscientists to develop a better understanding of brain functioning during the course of certain experiences (Brefczynski-Lewis, Lutz, Schaefer, Levinson, & Davidson, 2007). A large number of scientific investigations have now demonstrated that the brain's neuroplasticity, the ability to change itself structurally, far extends what it was previously believed to be (Lazar et al., 2005). These new discoveries have been considered revolutionary in the medical field as they allow an understanding of how the brain processes information during certain mental tasks and conversations (Begley, 2007). Such understandings have important implications for therapists who operate primarily through linguistic endeavors.

The purpose of this article is to examine neuroscience findings and their relevance to therapeutic conversations. Despite its very different epistemology, narrative therapy will be the primary theoretical orientation discussed (White & Epston, 1990; White, 2007). As long time narrative therapists, we became intrigued by what seemed to be research support for some of narrative therapy's non-dominant ideas, as well as interested in what this research could add to our work. Since this article represents an early effort to integrate different fields, these speculations remain subject to further experiential validation and possible empirical research.

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This article is divided into three sections: first, a brief introduction of relevant concepts in neuroscience and the field of interpersonal neurobiology; second, a review of some of the narrative therapy practices that are supported by current brain research; and third, new directions and possible ways of enhancing clinical effectiveness that have not been theoretically emphasized in the existing narrative literature. Section two, and particularly section three, will be illustrated with the story of Katelyn, a 28-year-old woman struggling with issues of body image, depression, and anxiety.

INTRODUCTION TO BASIC NEUROSCIENCE CONCEPTS

Current advances in neuroscience have more than ever revealed that the brain is an experience encoding device with a particular bias towards retention of what is often called "negative affect"[1] (Kensinger, 2007; LeDoux, 1996, 2002). This bias is believed to be associated with the survival of our human species, whereby experiences of danger can be perceived as more important to retain than "positive" experiences. The tendency to attend to "negative" experiences is thought to be visible at both the cellular and structural level (Siegel, 1999). At the cellular level, neural networks associated with "negative" affect develop thicker axons and more dendrites which allow for this affect to effect behavior faster and more intensely than information coming from the thinking part of the brain (prefrontal cortex). At the structural level, these neural networks are typically connected to the amygdalae—two small, nut-like structures in the limbic system—that amplify either the freeze, fight, or flight reactions coming from the brainstem. The effect of these connections to the limbic system is that an individual can react very quickly to a dangerous situation without thinking. For example, if the brain suddenly perceives a risk of being hit by a car, the activation of the limbic system will allow a person to start running within 150th of a millisecond while the cerebral cortex will more slowly process the meaning of this event later (Restak, 2007). In addition, the neural networks responsible for the activation of "negative" affect are assumed to be in greater proportion than those associated with "positive" affect (Hansen & Mendius, 2009).

These biases lead to a number of problems for clients struggling with issues such as depression, anxiety, or anger, since the experiences associated with these brain states become reinforced over and over again through mental repetition, attentional bias, and limited experiences of other affective states (Grimm et al., 2009). The brain may have neural networks associated with preferred experiences, but these are much less developed than the networks associated with problem related experiences, which

[1] Much of the scientific literature uses vocabulary such as "positive" versus "negative" affect to describe two different sets of neural activities in the brain. We have attempted to replace these words by others that would be more congruent with the narrative philosophy. So far we have not found a terminology that would represent all that we wish to integrate.

can metaphorically be described as super highways (Beaudoin, 2010). Furthermore, once "negative" affect is generated, the prefrontal cortex (thinking area of the brain) is left to create an explanation to account for this affective experience. If repeated often we end up with problem-saturated stories of oneself or a "problem identity," in neuroscience terms, a brain state. In this situation, if our preferred responses tend to occur occasionally, they remain unnoticed and disconnected from any coherent account of oneself. When emotionally loaded situations or triggers arise, the bigger, more developed neural pathways and their associated "stories" have a significantly greater likelihood of being activated rapidly, with predictable effects.

These findings raise critical questions for therapists. Which therapeutic practices are more effective: attempts at managing problem neural pathways, or efforts at thickening preferred neural pathways? How can therapists effectively reduce clients' problem bias given its strong hold in the brain, and how can we increase clients' abilities to experience preferred responses? What new emphases may be helpful to hold onto when doing narrative therapy?

NARRATIVE THERAPY AND INTERPERSONAL NEUROBIOLOGY

Narrative therapy was developed by Michael White and David Epston in the late 1980s (White & Epston, 1990) and has since been gaining popularity for its respectful, collaborative, and agency-promoting effects (Beaudoin & Taylor, 2009; Duvall & Beres, 2011; Freedman & Combs, 1996; Freeman, Epston, & Lobovits, 1997; Madsen, 1999; White, 1995, 2007; Zimmerman & Dickerson, 1996). In general, narrative therapy is focused on the meaning people are making of their experiences. More specifically, its aim is to: (1) assist clients in separating their identities from their experiences of problems (deconstruction and externalization), and (2) open possibilities for them to articulate and access preferred experiences of self (re-authoring). Interpersonal neurobiology, a relatively new field (Siegel, 1999, 2007, 2010) considers meaning from the standpoint of the brain: (1) the limbic region in the brain appraises the situation into, say, "negative" or "positive," and then (2) influenced by this appraisal, the medial prefrontal cortex helps create the meaning of the events in the brain. We will examine the overlap between these findings from brain research and the two previously described sets of narrative practices. Because of space limitation, clinical work with Katelyn will be described briefly here, so that the reader can see some of the effects of our integration of this work in our narrative therapy practices via a transcript in the third section.

The Story of Katelyn

Katelyn, 28 years old, is seeking therapy because of body image issues, anxiety, and depression. She feels stuck in chronic, unproductive, and negative overanalyzing,

and describes her own brain as being like a Labrador retriever: "always chewing and destroying something." Katelyn has a tendency to overwork and attempt to please her supervisors, which has led to feeling depleted and to episodes of overeating, binge drinking, dangerous driving while intoxicated, and spending several hours daily playing virtual games in pretend bodies called "avatars." These avatars represent different preferred identities, and bodies, she has created and some of them live a bold, confident, and adventurous life. Katelyn struggles with social isolation and has labeled herself "Asperger."

Narrative Practices that Address Problems

Externalization and deconstruction have been extensively discussed in narrative literature. Externalizing is based on the assumptions that a person has many more ways of being than those represented by the problem (White & Epston, 1990). Problems are understood as resulting from contextual pressures, cultural specifications, and life experiences, which have cornered the person into ways of being which are incongruent with their values. In externalizing conversations, problems are discussed as smaller than, and separate, from a person's multifaceted identity (Epston, 1998; White, 2007). In other words, problems are conceptualized as undesirable experiences associated with certain contexts and relationships, and not as representative of a single, fixed identity (neuroscientists understand these patterned ways of responding as brain states, acknowledging that any individual will have many possible states (Siegel, 1999). The practice of externalizing leaves clients with more hope, and a greater awareness of their access to various ways of being.

Deconstruction is a process by which taken for granted assumptions about an experience are unpacked and examined as to reveal their origin (White, 1991). Knowing and understanding the source of an unquestioned belief allows clients to make choices as to whether these beliefs are congruent with their values.

Both of these practices, deconstruction and externalization, shift clients' perspectives on their experiences. Their state of suffering no longer becomes fixed, and all encompassing, but rather simply a representation of experiences which can be examined, addressed, and rectified. Therapeutic conversations following these practices had helpful effects in Katelyn's relationship with her struggles. More specifically, they allowed her to relate differently to her negative experiences of herself as described below.

Katelyn arrived at our meeting with a large collage of magazine cuttings representing all the desirable objects and experiences missing in her life. Since her account was dominated by "negative" affective states, a number of externalizations were used such as: Anxiety, Depression, and Self-Doubt. These problems, as reflected by her collage, contributed significantly to behaviors of pleasing, withdrawing socially, overeating, binge drinking, and "not taking good care" of herself. Through externalizing conversations, she came to realize that Depression

and Anxiety were mental products (our words) and not her identity. She further realized that the experience of Depression and Anxiety biased her perception of life, and prevented her from noticing some aspects of herself which actually fit within her preferred identity. These included feeling educated, caring, having good relationships with her brothers, some friends, and an important spiritual affiliation she valued. Depression and Anxiety also made her forget that she was privileged with financial stability, opportunities to travel, and a career that interested her. The affective experiences and beliefs associated with Depression and Anxiety were found to corroborate with past exposure to bullying in high school, patriarchal assumptions about women's value being appearance dependent, and a fear-based upbringing. Many of these experiences were deconstructed, allowing Katelyn to develop her own burgeoning beliefs about herself and to reconnect with her dreams and values as a young woman.

From a neuroscience perspective, when problems like depression and anxiety are acutely influencing a person, limbic firing results in increased blood flow to the amygdala and diminished flow to the prefrontal cortex (Siegel, 2010). How we feel, perceive, and respond are being influenced by these affective states (more linked to the right side of the brain) and not by the "thinking" (left side) of our brain. Siegel goes on to suggest that when overwhelmed by emotions, we need the mental distance that the "left mode" of the brain provides and that naming an affect soothes limbic firing. "Name it is to tame it" is the refrain used by neurological researchers. The key is the link between the affect and the name (we will return to this key point later). The process of asking externalizing questions of the neural "problem highway," illustrated in Katelyn's story, can be understood as having this important effect on the brain. Once linked, prefrontal cortex operations can have more influence and the "danger, danger" warnings from the amygdala can be better managed and eventually changed. If the linking is done correctly, externalization will help clients notice, at least implicitly, that "depression" is but a mental product, the union of the amagdala firing "negative" affect, and the prefrontal cortex putting words to this experience.

We have begun to consider the usefulness of thinking about the process of deconstruction as the linking up of implicit affect (implicit as it has been absorbed from our experiences without us necessarily having had conscious awareness that we are doing so), to the explicit or factual, personal or cultural knowledges we might have about our lives. This knowledge may be autobiographical in nature and would be represented in the stories we hold about our lives. For example, in Katelyn's case, the first author was able to link dominant culture marketing strategies to the experience of discomfort with her own body, having the effect of her body itself being less the problem. The implicit absorption of "negative" affect in relation to certain body sizes generated by these images has been brought forth and linked to other explanations. Again, this linking slows down the speed of the amygdala induced problem reaction and allows for more prefrontal cortex influenced reactions. As therapy continues, clients are invited to bathe in a different affective experience,

with inevitably different influences on the conclusions generated by the "thinking" centers of the brain. Linking becomes the key.[2]

These conversations which shift clients' affective experiences and the conclusions that are influenced by them are important in another way. Our brain's memory is altered by each revisiting of an experience (Sousa, 2006). The memory of an event, for example, becomes infused with the various meanings, and moods, of each revisiting event (more intense moods having a greater effect than neutral ones). This implies that once the memory of an experience is retrieved in therapy, and discussed in meaningful ways, it automatically goes back into storage in an altered way (LeDoux, 2002), either stronger or weaker. Stronger if the discussion reinforced the problematic experience and enriched it with unhelpful details, such as the process of reviewing a trauma, a practice strongly discouraged in narrative therapy (Beaudoin, 2005; Duvall & Béres, 2007; White, 1995, 2007). Weaker if the re-authoring conversation allowed the client to examine the "problem highway" in a way that linked alternative experiences with affective responses, and brought forth skills that were initially invisible in the original story.

Narrative Practices that Open Possibilities

Re-authoring is a process in which clients are invited to examine situations they handled in ways that were unpredictable given the problem story (White & Epston, 1990; White, 1995, 2007). These problem-free, problem-minimized events, or "unique outcomes," typically represent clients' abilities to engage in preferred ways of being that are more congruent with their values. From a neuroscience perspective, we believe that re-authoring practices directly reinforce faint but preferred neural pathways. These neural pathways may be faint at the onset of therapy because they represent lived experiences that may have occurred less frequently and therefore accorded less meaning. This was the case with Katelyn, who did attempt to take care of herself by going for walks, doing yoga, and organizing occasional fun outings with some friends. Therapeutic conversations that bring forth the experiences that reflect the skills, knowledge, and preferences that go into these actions further develop preferred neural pathways. These experiences become an opportunity for "positive" affect to influence different kinds of conclusions; neural connections become reinforced and new links are made through the strengthening of synaptic connections. According to Siegel (2010), emotional arousal, novelty, repetition, and focus are how we learn from experience. As the medial prefrontal cortex integrative fibers grow, these fibers inhibit the production of certain neurotransmitters involved in limbic system activation. This process can be visualized as a small tree growing

[2] The effects of the neural network altered through externalizing and deconstructive conversations has similarities with reported effects of mindfulness meditation where a state of detachment and observation of mental experiences is cultivated, allowing clients to experience more awareness and choices over their responses (Kostanski & Craig, 2008; Manna et al., 2010; Siegel, 2007).

an increasing number of limbs as clients notice and re-experience moments that can be connected to the preferred neural network. While this network may remain "thin" or "sketchy" at first, through repeated neural linking and firing it will progressively expand in thickness and speed of connection. If the re-authoring process unfolds through careful scaffolding and attentiveness to experience, it can be so powerful that, with some clients, attending to the problem itself may become unnecessary.

The next session with Katelyn turned out to be rich with re-authoring possibilities. Katelyn arrived at our scheduled meeting having decided, on her own, to do another collage entitled "Saying Yes to Life." This collage represented about sixteen objects and preferred experiences that she valued in herself and her current life such as being present, care, creativity, reading, outdoor activities, spirituality, friends, etc. The therapeutic conversation focused on bringing forth some of the "moments" of her involvement in these activities. These were linked to her views, her preferred identity, and to "taking better care of herself," which she defined as her ultimate goal. Care of herself included some of the skills she had used to go to a party and refrain from over drinking. Katelyn felt she had managed to be more "centered and less bounced around by life."

NEWLY EMPHASIZED THERAPEUTIC PRACTICES: BRINGING FORTH "AFFECT-INFUSED" UNIQUE OUTCOMES

A number of maps and practices have been developed in narrative therapy to guide therapists in bringing forth clients' preferred experiences of self (White & Epston, 1990; White, 2007). These practices are highly effective with a variety of clients, children, and adults alike, even in the context of walk-in single session therapies (Young, 2008). Although the importance of engaging in "experience-near" conversations with clients has been emphasized, most writings on unique outcome questions per se have been cognitively or behaviorally based (this is in sharp contrast to seeing, say, Michael White's work, which was very affect-full, even if not described in that particular manner). In our opinion, the affective part of "experience-near" has been underemphasized. Given the increasing amount of research, and our previous discussion, showing the importance of affect in the encoding of memories and the shaping of lives (LeDoux, 1996, 2002; Siegel, 1999, 2007), this article extends an invitation to emphasize in narrative practices, a greater focus on affective experiences. This is important for two main reasons. First, as discussed earlier, problems have a powerful hold on the brain by virtue of their connection with problem related affect induced by the limbic system. Preferred experiences of self are facilitated by a comparable connection to intense preferred affect. Second, re-authoring conversations that focus on cognitive or behavioral unique outcomes often yield affect related conversations with many clients, but *not all*. There are a number of clients who can engage in skillfully scaffolded and rich conversations about unique outcomes *without* experiencing much preferred affect. These same

clients are often also disconnected from affect created by the effects of the problem. One possibility is that this affective disconnection is an effect of the problem in and of itself. Examples of such situations include, but are not limited to, clients who experience anorexia or bulimia and may be disconnected from their senses, or, clients who experience anxiety or depression and may have well developed avoidance neural networks in their brains to protect themselves from experiencing these "negative" affects. Such clients tend to feel generally bad, but feel very little specifically. Failure to include an exploration of affect with these particular clients (both affect connected to the problem's effects and the affect connected to unique outcomes) can render therapeutic conversations ineffective or very slow to progress. To help us remain focused on this issue, we have been asking the people we work with to review unique outcome "moments." This will be illustrated in the next section and suggestions will be made about picking, and exploring, unique outcomes.

Two weeks after a discussion of the preferred self that involved being "more centered" as opposed to "being bounced around by life," Katelyn begins our meeting by announcing the following:

> I took better care of myself this week, I'm kind of proud. I was feeling sick at work, and at some point I realized that meetings can be rescheduled. The world won't end if I don't finish x, y, z for these people. So I decided to come home early yesterday, and I just went to bed. I fell asleep for two hours.

Readers are invited to generate their own list of questions and examine the different directions that may be helpful to explore with this client. It is worth mentioning that exploring your own clinical response to Katelyn's statement will actively engage your brain in the process and enhance the likelihood that you will be inspired by this exercise!

From a classic narrative perspective, many therapists would be tempted to explore the unique outcome embedded in "coming home early." Possible directions include, but are not limited to: examining the process by which Katelyn came to this decision, what realizations or experiences may have preceded this choice, the micro-steps embedded in the actual departure from her work, and the effect of this unique outcome. All of these directions can still be valuable if one made sure that the client described her experience, perhaps using images, instead of explaining or summarizing. According to Siegel (2010) this would create a "broader sensory experience, closer to the right mode where autobiographical representations lie." In light of this potential difficulty, and the usual affect-disconnected presentation of this client, the first author chose to explore the unique outcome, which was more readily "preferred affect-infused," as illustrated below.

MN: Can you tell me more about that moment when you were feeling proud? When did you have that experience exactly?
K: Hum . . . when I woke up.

The goal in exploring this "affect infused" unique outcome is to strengthen the neural network associated with this experience and make it more readily accessible to Katelyn in the future. This was done by engaging in two different but related clinical practices. First, the client was brought back into the feeling of pride to reactivate the experience. According to brain research this is more easily done by examining broader type of information, and narrowing it slowly down to personal experience (Schacter, 2001). The narrative practice of eliciting a clients' account of contextual information such as the "where, what, and when" allows the individual to not only revisit the situation, but also to have her re-experience or maybe even explicitly absorb the affect of the experience for the first time.

MN: So, I'm trying to picture you, what does your room look like?
K: It has blue walls and a desk covered with papers and my computer. My bed has red sheets and a quilt.
MN: Is there a window?
K: Yeah, there's two medium-sized windows with curtains on each side of my bed.

The amount of context recreating questions depends on many variables such as: the time elapsed since the event and clients' familiarity with the actual setting in which the unique outcome occurred (more familiar requires less questions); clients' comfort with these types of questions; the ease at which they enter reliving experiences; and their age (younger clients may have less patience for too many questions). In this particular conversation, the client is very familiar with her bedroom, and the event happened yesterday, so she was asked only a limited amount of questions. The conversation then moved to a second practice, intended to strengthen the preferred neural network by scaffolding a detailed description of the experience itself. Since this client tends to be fairly disconnected from preferred (or any other) affective experience, this type of conversation is scaffolded carefully and slowly. Following common and classic narrative therapy practices, questions can be asked to examine the thoughts she experienced in this unique outcome. Katelyn tends to be readily aware of her thinking, so it provides an easy step into scaffolding experiences she is less aware of.

MN: Ok, so you're in your bed and you wake up. Was the pride there already or did it build up?
K: I thought that if I can fall asleep at 5pm, then I must have really needed it. I realized I was so tired it would have been dangerous to drive home otherwise. Even driving home at 3:30 I had a hard time not falling asleep behind the wheel.
MN: So you really needed this nap and it would have been dangerous to drive later on. You thought of what you avoided?
K: Yeah, also I might have been sick all week. I have a major deadline on Monday, I just can't be sick.
MN: I see, you also realized you might have been sick all week. What else was the pride about?

K: I like taking a moment to slow down, I'm usually living life at a gallop. I'm rushing so much from the moment I get up (I'm always on to the next thing) that I never really get to think. Taking a two hour break gave me a moment to think about things.
MN: What kind of things come up for you when you have a moment to think about things?
K: Well I realized that I liked who I was. I don't need people to tell me who I am.

The client is now sharing another affect based unique outcome: "liking who she is." This unique outcome seems more significant than the previous one since it is directly related to a sense of identity and a preferred experience of oneself.

MN: What was it like to feel that you "liked who you were"?
K (UNSURE): Hum . . . I don't know.
MN: If you go back to that moment in your bed, in your room, what is it like to be in your body and "liking who you are"?
K: Well . . . Maybe . . . There was some kind of sense of security that came from it.
MN: Can you describe what is happening in your body when you like who you are and experience that sense of security?
K (NOTICING): I guess, it feels less frantic, less brittle . . .

It is helpful to elicit as much detail as possible to thicken her awareness and knowledge of this experience, and to trigger an activation of the preferred neural network. As mentioned earlier, the mere process of talking about this experience in the therapy room in and of itself activates and strengthens that neural pathway in her brain. It makes it more readily available to be re-experienced at another time. More specifically, the actual process of describing and naming an experience is associated with a balancing of activity between the right and left hemisphere of the brain which allows for a more complex level of integration (Siegel, 2009).

MN: Can you continue to relive that experience and tell me more details about how it feels inside?
K (SLOWLY): I don't know, it feels warmer inside . . .
MN: It feels warmer . . .
K: Yeah, it reminds me of a sun-warmed rock. Have you ever leaned against a sun warmed boulder? That's how it feels.
MN (APPRECIATIVE): Yes, I have. Is it your body that feels like a sun-warmed rock?
K: Yeah, it feels like I'm sinking against it.
MN: How big is the sun-warmed rock?
K: It's about as large as I am.
MN: Is that feeling there with you right now?
K: Yeah! It's there.

MN: What's different about your body when you feel like a sun-warmed rock as opposed to feeling frantic and anxious?
K: I don't know . . . I think I'm breathing more deeply and moving more slowly maybe . . .
MN: Anything else? How about your face?
K (NOTICING): I think I'm frowning less and maybe there's less tension in my jaw . . . maybe even less in my shoulders.

The activation of a preferred affect neural network primes the brain to encode memories of the event in a more rich and complex manner.[3] As mentioned earlier, when the actual preferred affect is triggered, the brain is more likely to encode information discussed in the therapeutic conversation in more sophisticated ways. After inviting more descriptions of her body sensations, the conversation comes back to classic narrative work and a map of effects as illustrated below.

MN: Does your view of people change when you are a "sun-warmed rock"?
K: I'm more aware of how everyone else is afraid of being themselves too.
MN: What difference does that make to be aware that everyone else is afraid too?
K: It feels less lonely.
MN: How does feeling less lonely affect you?
K: I feel less separated from people . . . I'm more comfortable being myself. I actually created a new avatar last night, more like I really am. All the other ones are just aspects of me, this one is more integrated.
MN: So you created a new, more integrated avatar. What's the name of this new one?
K (LONG SILENCE): Katelyn . . .
MN (SURPRISED): So does that mean that you made yourself for the first time?
K (SMILING): Yeah! I even made her more proportional to my own body dimensions.

This was an unexpected surprise which may not have become visible through a conversation that would have focused on the cognitive exploration of how she managed to leave work when feeling sick, especially if you had a client whose left and right brain were poorly integrated and affect did not flow easily into the discussion of the unique outcome. For Katelyn, it was more therapeutic to heighten the preferred experience of herself. The metaphorical description of the experience of being a "sun-warmed rock" also provided her with an anchor to a preferred self (Beaudoin, 2004). More specifically, when feeling on the verge of falling into a state of anxiety or binge drinking, she can more readily try to re-create the mental state and physical experience associated with a sun-warmed rock.

Given the space limitation, only a sample of these therapeutic conversations is included in this article. Many more conversations like this eventually allowed

[3] This is similar to the process involved in mindfulness training, where clients are invited to pay attention to their bodily sensations and notice various aspects of their experience (Kabat-Zinn, 2003, 2005).

Katelyn to become increasingly connected to a more vivid and embodied preferred experience of herself.

CONCLUSION

Recent research in neuroscience has made visible the process by which affect loaded experiences have a greater likelihood of being retained by the brain than cognitive based material. These findings have important implications for the effectiveness of therapeutic conversations. We could have taken any model of therapy and considered what this research might mean for various practices that enable individuals to more ably manage "negative" affect and/or make "positive" affect more present and powerful (Beaudoin & Zimmerman, in preparation).

In this article, we have summarized some of the overlap between narrative therapy and brain research, and emphasized the importance of "affect infused" unique outcomes. Bringing forth feelings and details about experiences can render preferred identity conclusions more accessible on both an experiential and physiological level. It is our hope that this material will suggest new conversational directions and enrich clinical work with a number of clients. For us, this material raises questions about what kinds of problem constructions and what types of unique outcomes are helpful to pay attention to in what situations. The congruence and presence (or not) of overt affect may be a critical factor in these decisions. For readers interested in this subject, a similar application of neuroscience to narrative therapy, with the socio-emotional skills of young people, can also be found in Beaudoin (2010).

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