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A methodology of loving kindness: how interpersonal neurobiology, compassion and transference can inform researcher–participant encounters and storytelling

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This article concerns some central aspects of methodology in qualitative research: the participants' and investigators' storytelling, and the main instruments in many interview-based qualitative studies, the researchers themselves. We discuss several ethical and interpersonal aspects of qualitative research encounters between investigators and their interviewee participants. Interviewing research participants is a fundamentally exploitative process, and we make suggestions for how we can temper that exploitation by giving something of value back to our participants and to make sure the well-being of the participant is not compromised by our actions. Many research topics in qualitative studies concern experiences of stress, distress and trauma, and interviewees re-telling their stories may become retraumatised. Such retraumatisation constitutes abuse on the part of the researcher. To counter potential abuse and exploitation, we discuss how researchers, as the central instruments in interview-based investigations, can use knowledge of interpersonal neurobiology, psychodynamic theory and mindful practice to enable them to hold their participants (and their participants' stories) in loving care and maybe even help in healing processes.

Keywords: ethical research; interviewing; mindful researcher; presence; storying

> We should be ministers for healing, storytellers, storymakers, and players in the greatest drama of all: the story of our patients' [participants'] lives as well as our own. (Verghese 2001, p. 1016)

In this opening quote, Verghese (2001) is speaking to physicians about their patients and themselves, but we feel with the substitution of research *participants* for *patients* that the quote still reads quite well and goes some distance to encapsulating the themes of this article. Qualitative research interview encounters are hardly some of the 'greatest dramas' around, but they can vary from the pedestrian to the deeply moving and profound.

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A substantial portion of this article was presented as an Invited Keynote Speech by the first author at the 4th International Conference on Qualitative Research in Sport and Exercise, Loughborough, England, 1–3 September 2014. Only an abstract was published in the conference proceedings. Brief biographical notes for each author are at the end of the article.

Even though this article is not a research investigation with participant data and analysis, it sits somewhat within the qualitative tradition of what Sparkes (2002) has called a *confessional tale* with the authors' reflections, understandings and biases woven through the thematic narratives. Confessional tales bring researchers' stories occasionally to the foreground, in a kind of Greek chorus way, to make commentary and add depth to how the stories being told are the product of (at least) two brains and the cultures that influenced them. In discussing the genre of confessional tales in sport and exercise research, Hopper *et al.* (2012, p. 219) stated:

> Researchers use confessional tales to explore and expose the problems about the ethical and methodological complexities involved in researching These admissions benefit both the reader and the researcher, offering a complementary coherence to the research findings. The researcher needs to be reflexive about how they are central to the research process, how they influence it, and how they are influenced by it.

Our confessional tale here is about how we interpret, experience and write about not only our encounters with research participants, but also our service to others as practitioners, our teaching of sport and exercise psychology students, and our understanding of our whole worlds. Accompanying this broad, and necessarily incompletely painted canvas, are the moral imperative from Hippocrates (*primum non nocere,* first, do no harm) and the Buddhist admonition to 'do some good' (i.e. help alleviate suffering), and we hope to tell this convoluted confessional tale through personal, mythological, evolutionary, neurobiological, psychodynamic and mindful narratives.

In this article, there are several narratives that are connected to the main area of inquiry: what can happen in researcher–participant encounters during qualitative interview investigations? Some of the narratives are directly tied to this main question; others are somewhat tangential, and we ask for the reader's patience and faith that we will bring the narratives together at the end. Like an impressionist painting, the article when viewed close-up, with each different story, may seem like a lot of separate dots, but when viewed at a distance, to take in all the 'dots', we hope that a full picture emerges.

In terms of research genres, this article is probably most relevant for confessional tales, autoethnography (especially of psychologists' experiences working with athletes and exercisers) and case study investigative reports. Autoethnographic-like accounts in sport and exercise have increased in the past 15 years (e.g. Gilbourne and Richardson 2006, Gilbourne 2010), but two such accounts of sport psychology practice (i.e. Holt and Strean 2001, Lindsay *et al.* 2007), the methods and models used in service, and the interpersonal encounters between sport psychologists and athlete-clients seem most relevant to our discussion here. Both Holt and Strean and Lindsay et al. wrote passionately about the frustrations they experienced trying to use rather restricted models of service (e.g. psychological skills training, cognitive-behavioural interventions) and how when they opened up to more holistic and client-centred approaches did they connect better with their clients and also feel more comfortable and authentic in their own skins. They touched on the power of authentic presence and interpersonal attunement but did not have the interpersonal neurobiology, mindfulness and psychodynamic theory, which we use in this article, to elucidate researcher–participant encounters, to broaden their understandings of their experiences with their athlete-clients.

In the *Methods* or *Methodology* section of most qualitative research articles, there will be sections on: participants, instruments (e.g. video recording equipment,

interview guide), procedures and data analysis. Sometimes, there is also a subsection in the *Methodology* about the researcher(s). In qualitative sport and exercise psychology research, this subsection is often perfunctory and offers little information. For example, in Gould *et al.*'s (1997, p. 382) qualitative sport injury study, the authors covered the issue of describing the (arguably) main instrument of the research process (i.e. the interviewer) in the following statement, 'These interviews were tape-recorded and conducted by the same individual (a 33-year-old female) who was trained in qualitative research methodology and who had experienced major knee injuries herself'. And from that point on, the researcher is completely absent from the rest of the article. Andersen (2005) suggested that such limited reporting, common for what Sparkes (2002) calls *realist tales*, is not necessarily problematic, but may leave out a lot of potentially important information about research processes and the quality of data stemming from intimate interviews. Andersen (2005, pp. 283–284) also commented on how not only are descriptions of the researchers in qualitative sport and exercise psychology research often limited, but so too are accounts of the relationship between researcher and interviewee. He stated:

> A researcher may say, 'The interviewer first established rapport with the athletes before delving into the main topics.' Well, how did he do that? How was she sure rapport had been established? What depth of rapport was developed? Rapport is a mercurial phenomenon; it can wax and wane depending on the interviewee, the topics broached, the sensitivity of the interviewer, and a host of other factors. Rapport is messy, and that messiness cannot be dismissed in one sentence.

In this article, we would like to address this central issue in methodology and that is the messy, flawed, biased, compassionate, empathetic, confused and above all *human* instruments of qualitative methodology, the researchers themselves and the relationships they form with the interviewees/participants in their care.

Qualitative researchers' pasts, personalities and prejudices are all important for the qualitative research process and our (the authors') backgrounds are central parts of this confessional commentary and suggestions for improving qualitative methodologies at the deeply personal level. We need to preface our stories with some personal background relevant to understanding the design and execution of this article.

The designers

We (both authors) truly believe that confession is good for the soul, and we do have a few confessions to make. In some qualitative research circles, what follows here is often called the researcher's *positionality.* We translate this neologism to something like, 'where we are coming from'. I (Mark) am not really a qualitative researcher. I have helped doctoral students conduct qualitative research, but almost all my 'qualitative' writing comes from my work as a psychologist and the telling of tales (case studies) about my clients and me from a variety of perspectives (e.g. psychodynamic psychotherapy, interpersonal mindfulness, neuroscience of human relationships). Those perspectives are also the ones we will be using in the discussions about researcher–participant encounters. I am coming from a deeply interpersonal, social and neuroscientific position and in terms of qualitative research, I stand as an outsider looking in.

I (Andreas) am a devout quantoid who becomes positively activated by seeing an excellent fit in a structural equation model. Like Mark, I am an outsider, and I often put on my positivistic glasses when I am conducting research. But, I am also a

soccer coach, and both in that context and other situations where interactions among humans are essential (e.g. at work, in research, in everyday life), I have discovered that quantification and statistics, although often useful, have limitations when it comes to the messy world of human thoughts, emotions and behaviours. Instead, people's interpretations of specific events, as well as interactions with other people, are necessary to consider when trying to understand human actions. Like Mark, I think that neuroscience could extend our knowledge about the ways humans function and behave.

With our positionalities out of the way, we would like to begin with a tale Mark told at a recent conference. It may seem far afield from the title of this article, but please bear with us.

Half Moon Bay

Over a year ago, my father died, and a few months after his death, my sisters and brothers-in-law and I were all in California making forays into settling his estate. My mother died 20 years earlier so now my sisters and I were truly orphans. One evening, we went to Half Moon Bay, on the sublime Northern California coast, for dinner. We walked into this restaurant, and the maîtresse d′, this large, buxom, beautiful woman, came up to us in a welcoming way, and almost immediately I felt I was in the presence of somebody who was truly there, who was holding us in loving kindness, who was engaged and who seemed to have our best interests at heart, and we held a conversation for a few minutes while our table was being prepared, and we laughed, and her gaze embraced us all. I felt some of my sadness melt away and be replaced with feelings of having landed in a safe harbour, of being held in loving kindness. A few minutes later, she said to us, 'Oh, I see that your table is ready. Enjoy your dinner'. At that point, I moved toward her and put my hand on her arm, and said something like, I really can't remember what I said, but I'm sure it was something like 'Thank you very much'. What my subconscious actually wanted me to do was lay my head upon her breasts and in my orphaned state ask her, 'Will you please adopt me?' As we were walking to the table, one of my brothers-in-law said to me, 'My god! What a lovely person!' and I said, 'Yes! I had to move closer to her; I had to touch her'. It's amazing, sometimes, what a 3-minute encounter with another person can do to you. To this day, when I recall the events around my father's death and the settling of his estate, many things come to mind, some sad, some funny, but I always seem to circle back to those 3 minutes with a beautiful woman in Half Moon Bay, and my wanting to get closer to her, and my longings for a living and loving parent I will never have again.

Now, what does that story have to do with what the topic of this article? We'll try to find out. The central topic is the neuroscience of qualitative research processes. Well, there is no substantial neuroscience of qualitative research, but there are places, such as the English Association for Qualitative Research, where people are talking about the benefits of neuroscience to augment qualitative research. We do, however, have a massive literature on the neuroscience of human relationships (e.g. Cozolino 2010, 2014). And that literature tells us a whole lot about what happens when two brains or more sit down together and begin to talk and tell stories. Before we move further into that neuroscience of human relationships and the neuroscience of storytelling and re-storytelling, we'd like to go back to a brief

discussion on research processes and their potentials to be therapeutic or contra-therapeutic.

In the literature on conducting interviews in qualitative research, there have been many discussions about the potential therapeutic benefits to participants from being involved in research processes (e.g. Gale 1992, Birch and Miller 2000, Haynes 2006). The quality of these discussions ranges from thoughtful considerations (e.g. Haynes 2006) to being self-congratulatory (e.g. Gale 1992). The debate on the therapeutic benefits of research interviews is also well balanced with warnings about the potentials for boundary blurring and for doing harm to participants (e.g. Kavanaugh and Ayres 1998, Newman and Kaloupek 2004, Dickson-Swift *et al.* 2006, Targum 2011). In this article, we move away from the mainstream discussions in qualitative research about the therapeutic benefits of being involved in interview-based investigations and focus on the neurobiological correlates of positive interpersonal connections, the psychodynamic, ontogenetic histories of participants that can predispose them to connect with caring others (or predispose them to be armoured and defensive) and how training in mindfulness can help qualitative researchers increase the probability that they will form mutually satisfying connections with their participants. One of the issues we must remember, however, is that as researchers, we are starting out, relationship-wise with our participants, on our back feet, in that, unlike most psychotherapy, we are using participants to accomplish our academic/scientific agendas.

Research as exploitation

One of the things we cannot forget is that the endeavour of research is, by its very nature, exploitative. We may have all sorts of noble reasons for doing research, such as improving the human condition, decreasing injuries, improving health and those are all quite lofty goals, but when you really get down to it, a lot of research is really about obtaining more grants, getting a promotion, gaining status and so forth. And so when we exploit people, we need to try to find a way to balance that exploitation so that research participants, in some way, gain something. We should harken back again (and again) to one of the greats in medicine, Hippocrates, and remind ourselves over and over that the first principle in research is to *do no harm*. We've seen plenty of research from the 60s and 70s that actually did quite a bit of harm. The Milgram (1963, 1974) obedience studies traumatised people. Zimbardo's prison study (Haney *et al.* 1973) also severely traumatised people and did a lot of harm. Those studies taught us a great deal, but thank goodness, we don't have to do that research anymore, nor would that research these days get approved by an ethics review board. 'Do no harm' is just the first step. What can we do to help the participant experience part of the research process and go away in some way with something that is of benefit? In terms of qualitative research, we are thinking especially of the type of studies that involve in-depth interviews that are not just one-off encounters, but take place on multiple occasions over time (see Smith 2010). Often those interviews are about sensitive, painful and even traumatic events. Now, if in such interviews, the participant begins to recall stuff in greater and greater detail, and then actually becomes re-traumatised by that emotional recall (Collogan *et al.* 2004), then on top of exploitation, we have now added abuse. So how can we protect participants, but still gain knowledge about what happens to people in a variety

of situations that may be dangerous, may be traumatising or may be upsetting in some way? How can we 'do some good'?

The centrality of relatedness

One of the things we know from interpersonal neurobiology and from years and years of research into psychotherapy and counselling is that, in most cases, it doesn't really matter which sort of counselling or psychotherapy model you use, cognitive behavioural, psychodynamic, systems theory, narrative therapy, schema therapy and so forth (e.g. Rosenzweig 1936, Karasu 1986, Shedler 2010). It's not so much the unique techniques or approaches within a therapy framework as it is the common factors across psychotherapy models (Andersen and Speed 2010). One of those common factors is the quality of the relationship between the psychotherapist and the client (Sexton and Whiston 1994, Petitpas *et al.* 1999, Norcross *et al.* 2005). If that is a loving, caring, supportive, non-judgemental relationship, then what we see happens is that people actually begin to change for the better (Rossetto 2014). And what happens as people tell their stories in psychotherapy is that the telling and the retelling and the storying and the re-storying of a portion of one's life in the presence of an individual who can hold that story in loving care, who helps to put another spin on that story, allows the individual to see that it is being held in loving and non-judgemental care and is being accepted and valued, and so that story now has a different twist to it. The story is worthy of attention, worthy of love, worthy of care, and the individual maybe doesn't feel so isolated in his experience (Andersen 2012).

What goes on in psychotherapy also goes on in everyday life with encounters with familiar and new people. Positive and negative transference and countertransference can happen with the speed of the amygdala and leave people comforted or unsettled (Cozolino 2010, Schore 2014). Our interviews can compromise the well-being of our participants through retaumatisation, but just as a therapist can hold clients in loving kindness, so too can qualitative researchers hold their participants in that same embrace. One can think of loving kindness as a methodological (and transtheoretical) stance of the researcher, as opposed to, for example, the dispassionate recorder of stories. Qualitative research interviews are not therapy, but we should strive to help set the stage for them to be therapeutic. And that is where we give back to the participants to compensate for our exploitation.

So how can we become therapeutic researchers? We can start with mindfulness and begin with the qualitative researcher's intrapersonal mindfulness and examine how it is the foundation for interpersonal mindfulness, but first we need to mention Freud.

Interpersonal patterns and Sigmund Freud

One of Freud's major contributions to understanding the human condition was his exploration of the influence of early infant and childhood experiences on the development of individual personalities and lifelong patterns of thinking, feeling and behaving. When one comes to think of it, it makes so much sense. The amount of learning that goes on in the first five or six years probably exceeds learning for the rest of one's life. What do we learn in those years? We learn language. We learn about social relationships. We learn about the world. Is it a safe place? Is it a place of threat? We learn about love, and in many ways, as we tell students all the time,

most of our stories are in some way about love. Whether that's love denied, love fulfilled, love sought, love turned to hate, repeated attempts to connect with love or repeated failures acquiring love (Cozolino 2014). In our field of sport and exercise psychology, there is so much emphasis on performance and on performance enhancement (e.g. Andersen 2000, Gardner and Moore 2007, Vealey 2007). But what is performance about? Well, performance probably has to do with something about love. If I perform well, I'll be worthy of love, and if I perform well, mom and dad will pay attention to me and give me the love that I want. If I perform well, then I can actually love myself.

The neuroscience that we have in human relationships and developmental psychology shows us what profound effects those early childhood experiences have on our developing brains (Cozolino 2010, 2014). The neuroscience of human relationships, cognition and emotion are also confirming much of what Freud had written about the unconscious, and that the unconscious processes in our brains are the rule, rather than the exception (Siegel 2010), and those early childhood experiences and the quality of relationships with parents and siblings form a basis for how we form relationships later in our lives.

Australopithecines and the evolving human brain

We will leave Freud for a moment and go back a few million years to the savannah in East Africa. This article is certainly bouncing around, and it is actually mirroring what happens in our brains all the time. We bounce all over the place in between getting stuck in obsessive-like loops (e.g. that song you just can't get out of your head). As an experiment, take a moment and just sit and watch what is going on for you cognitively, emotionally and somatically right now. Close your eyes and observe yourself for 60 seconds.

What might we conclude from this brief observation? I think most of us might come to the conclusion that whatever is going on in our heads, hearts and bodies are a mess. So, here in this article, we are just doing what our brains do naturally.

Anyway, back to the savannah and the australopithecines. One thing seems certain: we didn't evolve to be a happy-go-lucky species. Natural selection favours whatever increases organisms' chances of surviving and reproducing, whatever allows them to mate successfully; and whatever helps their offspring repeat this pattern. Our ancestors on the African savannah a few million years ago had little chance of survival relying upon their fingernails, teeth, hearing, sight and smell. What would our odds be against a cheetah? Physically, we are rather poorly equipped.

The Epimethian blunder

In reflecting on our poor physical equipment, and in that impressionistic style we spoke of in the beginning of the article, we get pulled back to the Greek myth of Epimetheus and Prometheus. They were two brothers, whose names mean *afterthought* and *forethought*, Epimetheus was tasked with handing out traits and qualities to all the animals, such as big sharp teeth, claws and fur. Pretty soon all the good protective stuff was gone, and what he had left was little fingernails, stubby teeth and a bit of hair, and those he gave to humans. Prometheus took pity on those pathetic humans, and most Westerners know he brought them fire, and that really

angered the Gods, but probably his even more significant gift was his namesake: forethought. What helped us survive the Epimethian disadvantage were our huge Promethean brains. A gift and a curse.

Australopithecines again

Now back to the savannah and those anxious apes with the Promethean gifts of powerful tools such as fire and forethought (and big brains). Our forethoughtful minds are thinking machines – they just won't cease thinking. But we didn't evolve to think just any thoughts. Those australopithecines who repeatedly thought about bad stuff – who remembered what the cheetah did to a tribe member, or where the crocodiles are in the river, they lived on. If they forgot the good stuff – a satisfying sexual encounter or the location of a beehive full of honey – they still lived another day. We evolved brains that are steel traps for bad thoughts and sieves for good ones. Our remarkably effective stress-response system, with fight–freeze–flight reactions, is reliably activated in response to any perceived danger (Mannion and Andersen 2015). That system is bloody good, but it often just doesn't work well with our Promethean gifts of massive cerebral cortices. Once danger is past, other animals reliably return to baseline, but we get stuck in the 'on' position as we think about what's coming next. All day long, we think about bad stuff in the past and, with forethought, what bad stuff might happen in the future. Mark Twain summed this up nicely near the end of his life: 'I am a very old man and have suffered a great many misfortunes, most of which never happened'.

One of the ways to quiet down and calm our negatively biased brains is to engage in mindful awareness, a variety of meditative practices that stem from well before the time of the Buddha. In the last 20 years or so, our knowledge of how mindful practice positively influences our brains and nervous system has exploded, and we will discuss some of that research in the next section. The neurobiological correlates of mindfulness, of presence, attunement and resonance that we write about below have been somewhat simplified. These processes are substantially more complex than we present here. We have pared the information down to basics because a full explanation would take at least two or three articles to complete.

The Amygdala Tale

And now back to neuroscience, and what we like to call *The Amygdala Tale*. We argue that it is almost always helpful for people to understand the function of and reactions in the brain during specific emotional states related to stress, anxiety, depression or love. For example, during long-term stress, it has been discovered that a number of changes are happening in the brain (Cozolino and Santos 2014). One of these changes is that the connections between neurons in the areas of the brain where cognitions and emotions are processed become weaker. This weakening leads to brains being more dominated by affect centres, which often results in poor impulse control and reduced ability to self-regulate (Cozolino 2010). For a person to have knowledge of such relationships between emotions, thoughts and behaviours and the neurological bases behind them could, in many cases, help one to accept, as well as understand, his/her ways of reacting and behaving (Keng *et al.* 2011). Such didactic explanations of brain functions can be of great help when, for example,

working in therapy (e.g. Hayes *et al.* 1996). Another example of the importance of overcoming the fusion or identification with one's negative thoughts and emotions could be illustrated by the following story. Imagine a shy young athlete who loves his sport but who avoids taking part in meetings outside of practice, as well as other social events, because being in such environments brings about social anxiety that may be coupled to feelings of being worthless and incompetent because when growing up, he always heard that he could not do anything right. Participating in a discussion in a meeting or interacting with others in normal conversation will generate an anxiety response with worries about what others think of him, and then a whole cascade of past everyday trauma may start to roll and fusion with thoughts that begin with self-statements such as 'I am worthless'. He does get one-on-one positive attention from his coach, which helps somewhat with his social anxiety, but not enough to counteract a lifelong history of being told he is, in some way, deficient.

For this person, it could probably help to have an understanding of how the painful thoughts and emotions are part of connections (and disconnections) in the brain. Let's take the example of the shy athlete, illustrated above, who has had bad experiences in attempting to interact with other people. He has tried but becomes so self-conscious and anxious that he soon gives up and leaves. He really wants to have a normal life with a lot of friends so he is highly motivated to try anything to be able to take part in social activities. As mentioned before, it could be helpful for this person to understand what is really going on in his brain when he is at social events and the unpleasant thoughts and emotions start to come. In such a case, it could be important for the person to know that the brain has three different layers, each of which regulates different processes. In the oldest part of the brain, processes related to basic survival functions, such as breathing and heart rate, are located. In the middle part of the brain, functions related to emotions and perceptions of threats to survival are located (Cozolino 2014). The amygdala is one part in the middle part of the brain that is responsible for perceiving anything that potentially could threaten our survival. As a reaction to a threat, there are three preprogrammed responses that the amygdala is involved in: flight, fight or freeze. Another function that the amygdala has is that it, like a video recorder, will record threats during our lives. These records will be stored in our brains, and when we are exposed to situations in everyday life, the records will be used as the amygdala searches for new threats (Cozolino 2010).

When the amygdala finds current patterns that look similar to past threats, the person will experience anxiety and other types of unpleasant emotions (Wilson 2012). This process has survival value. Humans who had brains that quickly reacted to potential threats would more likely live long enough to reproduce. Those reactive, anxious folks survived so we ended up with brains biased to pay attention to threats and to activate us. When our shy guy attends a social event with his teammates, such as an end-of-season dinner, his amygdala will compare the patterns in that particular situation with the unpleasant experiences in the past. It could be that someone might look at him, and he interprets that look as disapproval, and then feels bad about himself, and pretty soon he becomes activated and anxious. When we think about situations where we have felt anxious, the activation might primarily be based on past experiences, not necessarily current realities. The responses that are based on information from the amygdala will always be faster and operate before conscious thought processes kick in. The amygdala can detect and respond to threat

within 30–50 ms. It can take about 400 ms for us to be conscious of the threat, and we often don't even know why we have come to feel a bit odd or anxious (Cozolino and Santos 2014). One question is: What can we do to try to take control over our long-established ways of thinking, feeling and behaving that are based on past real threats, but not current realities?

One possible solution to counteract these patterns is located in the top level of our brains. It's the last part of the brain to evolve, and it comes into the world at birth, unlike the fully formed amygdala, with a lot of growing up to do. The top part of the brain, the cortex, keeps maturing into one's 20s. This is the part of the brain where functions related to language and rational thinking are located (Cozolino 2014). Another function is to downregulate the amygdala when it is firing up and say (neurologically), for example, 'this is just a nice party where people are getting along with each other, and no one is interested in judging me. All those people have their own thoughts, emotions and dreams'. These sorts of language and reinterpretation processes of current realities are how our brains tell stories that help us feel less anxious. Through rational storytelling, people can defuse from those amygdala reactions and let their cortical activity begin to downregulate distressing subcortical responses so that with repeated exposure, they change their brains from avoidance reactions to approach and curiosity modes (Carless and Douglas 2008, Mannion and Andersen 2015). The amygdala is associated with threats and anxious reactions, but it is also a pattern recogniser for safety, security, warmth and love.

The phenomena of transference and countertransference

In a psychotherapeutic encounter, clients will often transfer behaviours, responses, emotions, attitudes and beliefs that they've had towards significant others in their lives to the therapist (see Freud 1958/1915). A similar phenomenon may take place from the therapist to the client (Schore 2014). This countertransference could be reflections of the therapist's past, or even fantasised, relationships. Both in research and in applied work (Cozolino 2010, 2014), it has been discovered that in relationships between two persons, especially in individuals who have been neglected, an internal fantasy representation of the good parent they wished they had may be matched in the current relationship. This matching of the fantasised good parent will usually be unconscious and represent someone who will come and save them and love them and take care of them. The fantasy good parent was created to help the individual survive neglect and cope with problems early in life. The internalised fantasy good parent could be one of the reasons for why individuals might fall in love with, for example, a teacher or a coach. More specifically, when a neglected individual establishes contact with a person who acts in line with the fantasy good parent (e.g. caring, positive, attentive), these patterns will be detected in her brain (Andersen and Speed 2010). Much of fantasised and reality-based transference and countertransference occur at unconscious levels and neurobiologically involve a kind of right brain-to-right brain (emotionally dominant with amygdala vigilance for both threat and danger and love and security) communication (Schore 2014). A match between the imaged good parent and the positive and caring pattern from the other person will often help create strong attachment, and in some cases also love, between the individual and the new 'good parent'.

Attachment

Ainsworth (1985) and Bowlby (1978) contributed much to our understanding of how children form attachments and the different types of attachment styles that a child can have. The child has a parent, often a mother, who is, as Winnicott (1971) would say, *good enough*, is not intrusive and controlling, is not neglectful or abusive, but is present and quick to attend when the child is distressed, and who is sensitive and consistent. With a Winnicottian good-enough mother the child comes to believe and trust that his or her needs are going to be met, that the world is a safe place, and if the child is secure, then the child is happy and is able to explore the world. That's what we all hope for, but it doesn't always work out that way. If the parent is inconsistent, is sometimes available and sensitive, but is sometimes neglectful, then the child comes to understand that needs are not necessarily going to be met. The child may become anxious, insecure and angry, and this type of attachment style is called anxious–ambivalent. If the parent is distant and disengaged (e.g. a mother with postnatal depression) then the child subconsciously comes to believe that his needs probably won't be met, that he can't find a soothing and comforting presence, and the child will not be explorative, will not venture out into the world. The child may also become, as a mirror of the parent, emotionally distant. This is what's known as an anxious–avoidant attachment style. If the parenting is even more extreme, in terms of violence, or if the parent is extremely anxious and communicates that anxiety, or if the parent is highly frightening, then the child will probably eventually become depressed, probably be quite passive, even angry, non-responsive and severely confused with no strategies about how to get her needs met. This attachment style is called disorganised–disoriented (Cozolino 2014). These different attachment styles vary in terms of pervasiveness, and a child may have two different attachment styles to two different parents. These early attachment styles probably form foundations for later transferences to others (Schore 2014). These attachment styles may also come into play in the relatively brief encounters in the relationships between researchers and their interviewees. Some ways to help counteract negative attachment experiences and transferences for research participants in qualitative interviews is for the researcher to be mindfully present, attuned and able to resonate with participants' stories and experiences and hold them in loving kindness.

Presence

To be mindfully present (Siegel 2010) is probably one of the most important tasks in our communications with research participants. Through our presence, we will have good chance to create a safe and comforting interpersonal space for our interactions with participants. Over a century ago, Freud (1958/1912, p. 111) described this stance, well before the introduction of mindfulness approaches in psychotherapy, as 'it rejects the use of any special expedient (even that of taking notes). It consists simply in not directing one's notice to anything in particular and in maintaining the same "evenly suspended attention" in the face of all that one hears'.

To be mindfully present and open is to take in whatever the situation offers us (Epstein 1995, Brown and Ryan 2003, Birrer *et al.* 2012). This position is the opposite of being protective and closed to the world outside us. The most important stance for interactions with other humans is that we are open, accepting, non-judgemental and curious as we alternatively observe our endless streams of thoughts, feelings, sensations and perceptions and our participants' verbal and

non-verbal communications (Rogers 1992, Hick and Bien 2008, Andersen and Mannion 2011). If we look at this interaction from a neurobiological perspective, this process will increase the activity in the left medial prefrontal cortex (Siegel 2010). In situations where we receive information (internal or external) that we perceive as threatening, different processes will occur in amygdalae and other parts of our brains, (e.g. prefrontal cortex, limbic system, brainstem). These processes could, together, generate protective fight–flight–freeze responses that could be interpreted as an unpleasant reaction in both our minds and bodies. More specifically, when we are in threat situations, our sympathetic nervous systems are activated (e.g. increased heart rate and muscle tension, shallower breathing). In the freeze stress response, the dorsal branch of our parasympathetic nervous systems is activated (Mannion and Andersen 2015). This activation has been found to be associated with dissociation, fatigue and reduced functioning. For research participants, the re-telling of traumatic events may trigger any of the freeze, flight or fight responses, and if such responses are triggered in the researcher, with resulting distancing and closed-off non-presence, then that may even worsen the participants' negative reactions (e.g. unconscious perception of being emotionally abandoned) and result in retraumatisation.

If, we, as researchers, change from being receptive to being protective and distant, participants could experience this in a number of different ways, objective as well as subjective. Humans are hardwired to recognise and attune to others' internal emotional states, and such processes may involve mirror neurons (Iacoboni 2008). The mirror neurons have been suggested to take part in several different processes, such as to detect and imitate others' behaviours (Iacoboni *et al.* 1999) as well as translate detected behaviours (e.g. facial expressions, body language) in others as outward signs of inner states, and then the internal states of the other are neurobiologically represented in the observer (e.g. researcher, friend, parent). Research participants may interpret a researcher's vigilance, distance, judgement or absence to mean that we, too, cannot handle their difficulties. And if we cannot hold their difficulties in loving kindness and presence, then where does that leave them?

One suggestion for us to prevent such chains of negative interpersonal neurobiological activations is to prepare ourselves for our research encounters by reflecting on our own histories of disappointments, traumas and perceptual biases (Brown and Ryan 2003). To be knowledgeable and compassionate with our own histories will increase our abilities to be mindful in our meetings with research participants. As we expand our windows of tolerance, we regain the receptive ability to consciously and fluidly shift through arising difficult thoughts, feelings and sensations without our mindful presence collapsing in neurobiological or cognitive–affective preoccupation, avoidance and other protective strategies. With such presence, we are well positioned for the next element.

Attunement

Attunement is an interpersonal process (i.e. interaction with another person). In situations, with other humans, when we can be present and not paying attention to disruptive stimuli (internal or external), it is possible for us to make internal representations of another's internal states (Andersen 2012, Bowen and Kurz 2012). To make these internal representations possible, an increased activation in subcortical limbic, brainstem and some bodily regions are present (Gellese *et al.* 2007). Corresponding shifts in our muscle tension, heart rates, breathing and intestinal

processes are then relayed up a layer to our spinal cords en route back up to conscious prefrontal cortical areas, and neural transmissions pass back through our brainstems and hypothalami altering hormonal levels and further shaping our states of receptivity or protection.

The various signals then reach one part of the brain called the posterior insula. In this region of the brain, a cortical sense or map of the body's state is created and sent to the anterior insula to form a second representation. In the anterior insula, we gain a conscious awareness of these inner bodily sensations (i.e. interoception) and emotions. The anterior insula is responsible our metacognitive awareness of these sensations and emotions (Siegel 2010). The neural signals that are generated will then arrive at the anterior cingulate cortex and the medial prefrontal cortex. In these parts of the brain is our centre for self-regulation (Barrett and Satpute 2013). In social interaction with other humans, the anterior cingulate cortex and anterior insula work together to create a sense of self. Several studies have reported support for the presented chain of changes within our brains when positively interacting with other humans. For example, Tang *et al.* (2012) reported that a four-week mindfulness meditation programme increased axonal density and myelinisation in the anterior cingulate cortex. Iacoboni (2008) has further proposed that *super mirror neurons* then help us to differentiate the source of these sensations as originating in our experience or in the other's experience. This differentiation is summed up beautifully in Rogers' (1992, p. 832) description of empathy:

> To sense the client's private world as if it were your own, but without ever losing the 'as if' quality – this is empathy, and this seems essential to therapy. To sense the client's anger, fear, or confusion as if it were your own, yet without your own anger, fear, or confusion getting bound up in it, is the condition we are endeavouring to describe.

To be empathic, present and attuned to our research participants, it is important that we are open to subcortical shifts so that we are able to produce internal representations of our participants' inner experiences (Mannion and Andersen 2015). Yalom (2002) spoke of the importance of this self- and other attunement when he described Erich Fromm teaching his students about empathy:

> Erich Fromm urged us to be open to that part of ourselves that corresponds to any deed or fantasy offered by patients, no matter how heinous, violent, lustful, masochistic, or sadistic. If we didn't, he suggested we investigate why we have chosen to close that part of ourselves. (p. 21)

To be mindfully self-attuned, it is crucial that we understand our histories and our perceptual biases. Moreover, it is also important to understand how these histories can restrict our cognitive, affective, behavioural and interoceptive experiences. If we not are able to be mindfully self-attuned, there is a risk that we mix up our issues with our research participants' concerns (Andersen 2012). To work with mindfulness and undergo psychotherapy are great ways for us to better understand these dynamics, expand our windows of tolerance, increase our effectiveness and open us up to resonating with our participants' experiences, even the ones that may initially distress us.

Resonance

Mindfulness, both intrapersonal (presence) and interpersonal (attunement with others), is not easy to maintain. Perhaps we instead should strive for finding a

good-enough mindful stance. To have a good-enough mindful state is about creating an environment, where a participant or a client could experience healthy psychological development (e.g. Dekeyser *et al.* 2008). Resonance emerges as each takes in the other without losing themselves. As Siegel (2010, pp. 54–55) stated:

> In many ways we feel 'close' or 'heard' or 'seen' by another person when we can detect that he has attuned to us and has taken us inside of his own mind. When we ourselves register this attunement, either consciously or not, our own state can change … Beginning with a genuine sense of care and interest by the focus of the other's careful attention, resonance extends this positive interaction into a fuller dimension of the other being changed because of who we are … this is how two individuals become a 'we.'

Not to be confused with boundary blurring or romantic love, this influence is ethically skewed in the direction of our participants as we provide positive cognitive–affective-neurobiological experiences through which they may be comforted and feel held in loving care.

The neurobiology of storytelling

There is a Native American aphorism that goes something like this: 'Tell me a fact, and I'll learn. Tell me a truth, and I'll believe. But tell me a story, and it will live in my heart forever'. We are hardwired for storytelling and story hearing. The survival value of learning from stories of a hunt, or of surviving a danger, or of when and where to gather nuts, is obvious for early hominids who had acquired language. Telling a story, as our research participants do all the time, provides an opportunity to modify how that story is stored in the brain (Cozolino 2010). And many of the stories we hear have to do with trauma, from the horrors of war to the childhood trauma of staring into the eyes of a depressed and emotionally absent mother. Re-telling those stories can be retraumatising; they can also be healing (Cozolino and Santos 2014).

Here are two takes on storytelling that come from stances that are, at first glance, miles apart. The first is from an article by Smith (2010, pp. 87–88) on the subject of narratives in qualitative research within sport and exercise psychology. The second is from Cozolino (2010, p. 163) on the intra- and inter-personal neurobiology of storytelling:

> That is, humans lead storied lives. In part, we live in, through, and out of narratives. We think in story form, make meaning through stories, and make sense of our experiences via the stories provided by the socioculture realms we inhabit We not only tell stories, but do things with them. Stories do things to, on, and for people that can make a difference. They help guide action; constitute human realities; and help frame who we are and who we can be. Further, stories are a key means by which we know and understand the world. They offer a way of knowing oneself and others

and

> The evolution of the human brain is inextricably interwoven with the expansion of culture and the emergence of language. Thus, it is no coincidence that human beings are storytellers. Through countless generations, humans have gathered to listen to stories of the hunt, the exploits of their ancestors, and morality tales of good and evil. It has long been supposed that these stories support the transmission of culture while promoting psychological and emotional stability. Stories connect us to others, prop up our often fragile identities, and keep our brains regulated. Thus, … both the urge to tell a tale and our vulnerability to being captivated by one are deeply woven into the structures of our brains.

Cozolino and Smith are both telling us a story about storytelling. They represent different psychological perspectives, and are using different words and frameworks, but from our point of view, it is the same tale of how we are all storytelling and story-hearing animals and how narratives take central positions in our biological, personal, cultural and evolutionary histories.

Many investigators we have known have had the experience of talking with a research participant, and the person tells a tale of deep distress, pain and shame, and they start to physically hurt and feel psychologically distressed from living through that experience second-hand. That is our brains making internal representations of another's internal states. And how many of the readers of this article have heard from a participant, after that painful story is told, something like, 'Oh my God, I have never told that to anyone before'. Why did that happen? Because they are such good researchers? That may be part of it, but we would suggest it was because they are the qualitative research equivalent of mindful therapists and *good enough* mothers. They are present, attuned, empathic and non-judgementally holding that participant in loving kindness. Researchers' and participants' brains are talking to each other at both the conscious and unconscious level right from first introductions. A participant may not even know why he told you a secret no one else knows, but his unconscious knows. The messages passing from the researcher's right brain to the participant's right brain at the subconscious level are probably something like, 'I understand your story. You are safe here. You are secure. I won't abandon you physically or emotionally. Your distress will not destroy me. I can hold your world and your hurt in loving care'.

And here is where we come full circle to the story of the beautiful woman in Northern California. Her presence, attunement, resonance and loving kindness with all of us had a profound effect in just a few minutes. My (Mark's) brain changed because of its encounter with her. She helped me change the story of my father's death. Very few people whom I have met have that woman's qualities, but for the sake of our participants' experiences of us as researchers, we should do whatever we can to increase the odds that our participants leave our research encounters feeling heard, embraced and lovingly cared for. If a few minutes encounter with a kind soul can have such a profound effect, then think of the potential for our research encounters to help, maybe in some small way, our participants to feel heard and held in loving kindness.

Some final notes

How do we answer the question we posed earlier: So how can we become therapeutic researchers? Although researcher encounters are not therapy, they have the potential to be therapeutic (Nelson *et al.* 2013, Rossetto 2014), but research participants are not clients. We do not have the same ground rules and permissions with participants that we have with clients. For example, in therapy, we usually have permission from clients that when painful material arises, we try to assist them in staying with those awful memories, even going deeper into them, to help consciously process and work through the trauma. We have no such permissions from research participants, and if we treated participants, in such cases, as though they were clients, then we would likely be involved in a kind of voyeuristic abuse.

As researchers, if we cultivate both intra- and inter-personal mindfulness so that we can be present, attuned and resonant with our participants, we set up many of

those Rogerian conditions for positive change (non-judgement, acceptance, genuineness, authenticity). If research participants feel heard, feel felt and feel held in loving care, then they are likely to leave the research encounter feeling comforted and understood, and to be comforted and understood is a powerful positive experience that, by any meaning of the word, is *therapeutic.* And that is one way we can compensate participants for our exploitation of them. We would also suggest that qualitative researchers engage in intense self-exploration that could come in the form of psychotherapy or psychodynamic supervision. The more we know about ourselves, the better we can attune to our own internal conditions and the internal states of others. This point is the central one that we are making about qualitative methodology. The researcher is the instrument through which most all the methodological functions of research pass, and our aim in this article was to shine a light on the researcher him/herself as a methodological instrument and to illustrate how interpersonal neurobiology, psychodynamic theory and mindfulness can offer much to help researchers hone themselves as the tools of their trade to produce high-quality research, and to go as far as possible to help ensure the health, well-being and happiness of the participants they exploit.

We have spoken of the potential therapeutic benefits for research participants when they engage in telling their stories in the presence of caring, non-judgemental others, but what of the researchers? As investigators, we are not (and should not be) immune to the power, beauty, sadness, joy, hopelessness and other deeply personal qualities of the stories we hear. If we are not somehow changed by our encounters with the people and stories told in our research endeavours, then we have to ask ourselves, as Yalom (2002) suggested: What is it about us that we have not made room in our hearts for a deep experience of connecting with our participants? What is it that keeps us from attuning and resonating with our informants and opening up to the potential transformative power of a shared story? Researchers (and therapists) may also accrue benefits from their participants' and clients' stories well after the interviews or therapies are over. In the writing up of the research (sort of the 'graphy' part of autoethnography), many interesting things may occur, as I (Mark) spoke of at the end of a long journey writing a neuropsychotherapy case study of an anxious and emotionally abused athlete I had been in therapy with:

> Working with Justin also changed my brain. In the writing and rewriting, … and the storytelling and re-storytelling of the tale of Justin and me … I have also changed my brain. Justin is now, even more so than when we worked together, a compassionate and cherished internal object whom I can reflect on in times when my doubts and anxieties about my competencies and abilities as a psychologist morph, from their usually reduced gremlin size, into oppressive ogres. (Andersen 2014, p. 205)

Just as Justin benefitted from psychotherapy with me, so I too benefitted from my encounter with Justin, and even though this was psychotherapy, we see many parallels with qualitative research, especially the kind that has multiple interviews over time where the goal is to understand a life in general or maybe a critical transitional period of time. We think what Maya Angelou (n.d.; with seven volumes of autobiography, one of the great 'autoethnographers' of our time) said about stories is as relevant to qualitative interview research as it is to psychotherapy, 'There is no greater agony than bearing an untold story inside you' and finally being able to tell that untold story, and having it held in loving kindness, is a gift from both

researchers and therapists alike, and through this process, maybe we have in some small (or large) bodhisattva way helped diminish another's agony or suffering.

We (Andreas and Mark) are both students of mindful practice and constantly learn new things about ourselves through paying attention to our messy brains and the brains of our clients and research interviewees. The mindful stance that we try to have with clients and research participants, when sitting with them in the present moment, in curious and non-judgemental loving kindness (unconditional positive regard), in empathy and in compassion, evaporates all the time. We both recall many situations where the other person's stories alert our slumbering histories of anxieties and past traumas and reel us out of the room and into internal landscapes of unhappiness. But we know that getting hooked into those quagmires will happen because they happen all the time, and then we gently and lovingly take the hook out and come back to *be* with the individuals interacting with us.

And finally, we are again thinking of a beautiful woman in Half Moon Bay, and we return to Maya Angelou (n.d.). In the following quote, it sounds to us like she is directly speaking about the right-brain-to-right-brain emotional, transferential processes of ethically grounded qualitative interview encounters (and also what happens in good psychotherapy), 'I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel'.

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