Compassion: Evolutionary understandings and the development of Compassion Focused Therapy (CFT)

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Introduction

Whilst for over 2000 years Buddhist approaches have highlighted how compassion may be a key factor in dealing with both common human suffering and in facilitating happiness and wellbeing, it has only been in the last two or three decades that Western science has begun to study compassion in more detail. This research has discovered complex yet important neurological, neurophysiological, genetic and hormonal correlates of compassion, along with how our relationships and social/cultural environmental contexts can influence the experience and expression of compassion (Gilbert 2009, 2014).

Similarly, compassion has also become an increasingly salient focus for psychotherapy, and recently, Compassion Focused Therapy (CFT; Gilbert, 2009, 2014; Gilbert & Irons, 2005) emerged as a psychotherapeutic treatment for people with severe and enduring mental health problems, often associated with complex early experiences (e.g. trauma, neglect), and struggling with high levels of shame and self-criticism. CFT is a multi-modal psychotherapy, drawing upon a variety of therapy interventions. Although influenced by Buddhist psychology and derived from a variety of sciences (e.g. development, social, biological), it draws heavily from evolutionary psychology in theorising about how and why humans suffer and how compassion may provide an important way of dealing with this suffering.

A Compassionate 'Reality Check'

CFT is underpinned with a number of 'reality checks' about our lives as humans, which help to form compassionate insights about the reality of our suffering. These facilitate the emergence of an appreciation that many of the difficulties that we go through in life are 'not our fault'. There are three key reflections here:

1. The first reality check is that we are an *emergent* species, caught up in the 'flow of life'. Our brains and bodies have been shaped by evolutionary processes – conservation, adaptation and so forth – over hundreds of millions of years. Understanding how evolutionary processes have affected our brains can help us to appreciate how we have been bestowed with wonderful cognitive gifts, but also like many evolutionary adaptations, these often come with 'trade-offs'. Evolutionary 'trade-offs' are often glitches in the system that have persisted because the adaptations that caused them provided benefits that outweigh any unintended costs. For example, our current understanding of the phylogenetic development of the human brain can help us to appreciate that our minds are actually quite 'tricky' and full of evolved glitches, and often get

caught up in a variety of non-rational heuristics (Gilbert, 1998). A useful simplification when thinking about the human mind is that we have an 'old brain' that is estimated to be over 100 million years old. We share this 'old brain' with many other animals walking this earth, and the anatomical structures of this part of the brain coordinate important yet ancient *motivations* (for basic survival, like food and shelter, as well as relationships and status), *behaviours* (fight, flight, submission, freeze) and *emotions* (e.g. anger, anxiety, sadness).

However, approximately 2 million years ago, humans began to develop a particular type of intelligence. We developed increasing cognitive abilities – a 'new brain' for short – which bestowed on us exceptional cognitive abilities, such as being able to imagine things that don't exist, planning and worrying about things that haven't happened yet (and may never happen), ruminating upon past mistakes, and engaging in complex 'mental gymnastics' associated with the capacity for theory of mind and mentalisation. However, as is common with evolved abilities, these wonderful adaptations also created some significant trade-offs for us; our increased cognitive power, when plumbed in to old brain motivations, emotions and behaviours, could lead to great personal and interpersonal suffering. For example, whilst our pet cats will begin to put weight on if they eat too much, we are pretty sure that they don't engage in human-like 'new brain' worry and imagination of 'I'm so overweight; all my cat friends are going to think I'm ugly and want to stay away from me' which then lead them to feel social anxious! However, our new brain abilities mean that humans can and do think like this, and when we do, this can subsequently stir up certain old brain emotions (e.g. anxiety) and behaviours (avoidance). This of course is not of our choosing, and therefore our fault, but rather, reflects a 'glitch of the mind' that occurred as a trade-off due to us becoming 'smart'. As Cognitive Therapy has long pointed out, our patterns of thinking (new brain) can cause us much distress (old brain), and these types of cognitive-emotional loops are common in many mental health diagnoses.

2. The second reality check is that our lives are short; on average in this country, we live for between 28,000 and 30,000 days. Moreover, as we age, we are increasingly likely to experience suffering - our bodies begin to break down, we will suffer pain, illness, disease and malfunctioning body parts! People we love will get ill and die. The reality check here is that a lot of the suffering linked to these experiences are the result of being a gene-built, biological organism. Just like other biological organisms, our bodies age, break down and ultimately, cease to be. Hard as all of these things are, they are a reality not of our choosing; in fact, if we could, many of us would choose to prevent aging and illness at the drop of a hat. Interestingly, some of our biological fate is dependent upon a genetic lottery – the genes that we inherit form our parents, but over which we have no control. We do not choose who our parents are, nor which version of their genes (the specific sperm that fertilizes the egg) we inherit. A different sperm fertilising the same egg would lead to completely different version of us in the world today. Sadly, although we do not get to choose or design any of this, our evolved, 'intelligent' new brain can reflect

upon the biological version of us in the world, and create a sense of shame, self-hatred or worry about aging.

3. The third reality check acknowledges that whilst our genes and biology are a salient part of who we are and who we become, we are more than 'just' genetically created, biological organisms. Rather, we are also *socially constructed* meaning that we are the product of the relationships, experiences and social-cultural environment that we have accrued in life. These experiences have a significant impact upon of sense of self and the version of us that exists in the world today. Similar to our insight in having no choice of genes, we often have very little control over many of our social and relational circumstances and experiences, yet these circumstances will have a significant impact on the mind that we go on to develop. Think for a moment: we do not choose many of the social circumstances of our lives; or the type of types of people that are our parents (loving, caring and sensitive, or neglectful and abusive), or the country we are born into (e.g. experiencing civil war or peace; affluence or poverty; whether we are Christian, Muslim or secular); or the type of school we attend (successful and nurturing versus failing and critical); or the friends we have when we are growing up. However, in each of these different versions of life, you can probably see that we would end up being quite different people. Moreover, we now know that these different types of environmental experience will impact upon how our genes express themselves (Caspi et al., 2003). Again, we do not choose how this interaction between our genes and our relational/social experiences plays out, but whatever the combination we have, this will lead to a particular 'version' of us existing in the world. A different set of social and relational experiences would lead to a different 'version' of us in the world. Moreover, this different version would have a different brain (e.g. different patterning and connection of neurons in my old and new brain) that would lead to a different mind – the way we see and reflect upon the world, other people and myself.

Learning to understanding that much of our suffering and our sense of self is not of our choosing is an important compassionate insight, and can lead to an empathic awakening to: 'this is not my fault'. Given that so many of us blame and beat ourselves up for how we are, this 'not your fault' message itself can make a profound change in our relationship with distress and suffering. However, a common and important response here is: 'but if much of our suffering is not our fault, then surely that means that people will never take any responsibility to change'. Here it is important to separate fault and responsibility. For example, although it is not my fault if I inherit genes that make me more susceptible to diabetes, if I eat too much of certain types of food and lead a sedentary life, it's quite likely that I will go on to develop diabetes, experience much pain and suffering, and probably, an early death. Although in this situation I cannot take responsibility – or do anything about - the genes I have inherited, an awareness of this can lead to taking responsibility (motivation, effort and distress tolerance) in finding ways to change my behaviour so that I become less likely to develop diabetes.

Emotion Regulation Systems

As we have explored above, understanding that our minds are still influenced by certain types of ancient yet powerful motives can be important in engaging with, and beginning to change how we relate to distress. Evolutionary psychologists think that motives evolved to help animals survive and seek out things that are important to them (e.g. food, shelter). Alongside motives, emotions are important as they help to guide our motivations and goals by responding in different ways to whether we are successful or thwarted, blocked or threatened in some way. In CFT, we use a simplification of complex neurobiological and physiological research about our differently evolved emotion systems (Dupue & Morrone-Strupinsky, 2005; LeDoux, 1998; Panksepp, 1998) and present to our clients the idea that we all have three such emotion regulation systems. These are described below:

1. *The threat and self-protection system.* This system evolved for detecting and responding to threats in the world. It is underpinned by the Hypothalamic-Pituitary-Adrenal (HPA) axis, the sympathetic nervous system (activation and inhibition), immobilisation, regulated by the unmyelinated dorsal vagus nerve (Porges, 2007) and the neurohormone serotonin, all of which help to coordinate the physiological response to threat. Once triggered, these physiological changes can leave us with particular types of feelings or emotions (e.g. anxiety, anger and disgust), which urge our bodies into action to protect us from the threat (by fight, flight, freeze or submission). The threat system functions by means of a 'better safe than sorry' heuristic, and therefore can quickly bias cognitive processes. It is highly 'conditionable', and therefore 'learns' through experiences encountered in life.

2. *The drive system.* This system evolved to motivate us to seek out and acquire important things that are helpful for our (and others) survival and flourishing. It gives us bursts of pleasurable feelings which motivate and urge us towards things, and then further positive (reward) feelings when we achieve the thing we were aiming for, thus making it more likely that we engage in that behaviour again. The drive system is underpinned by the hormone dopamine, and is therefore an activating, high-energy system.

3. *The soothing-affiliative system*. When animals aren't experiencing a threat, nor seeking out something, it may be helpful for them to be able to slow down, rest and recuperate (sometimes known as 'rest and digest'). This process gives rise to a sense of calmness, contentment and peacefulness. There is often a sense of 'slowing down' with this system, and it is linked to activation of the parasympathetic nervous system. This system evolved within early mammalian attachment relationships, and is associated with the myelinated ventral vagal nerve, which has been found to be important in the evolution of the parasympathetic nervous system, the regulation of the sympathetic nervous system and in facilitating social engagement (Porges, 2007). Consequentially, the soothing-affiliative system is sensitive to signals of care, kindness and safeness. Neurophysiologically, this system is associated with the neurotransmitter endorphin and the neuropeptide oxytocin. Research has

highlighted oxytocin plays an important role in bonding, trust and the regulation of HPA/threat system activity (Insel, 2010).

Balancing of the systems

Crucial in CFT is the assessment of the activity and balancing of these three systems. It can be helpful for us to think about what experiences have textured each one of these, and which one(s) are most dominant in our lives. For some of us, and for many of our patients, life is dominated by the threat system, and sometimes drive-based desires to achieve and 'get' as a way of trying to regulate threats (e.g. sense of inferiority). A major aim of CFT is to help to stimulate the soothing-affiliative system – blocked or underdeveloped in many people – so that it can do its natural, evolved job, to regulate threat and distress.

Mammalian Caring, Affiliation and Compassion

To understand how the soothing affiliative system can regulate threat, we need to consider how this system evolved with the emergence of mammals in the world, approximately 150-180 million years ago. Mammals introduced a new psychology to the world. Compared with reptiles, mammals provide a significant amount of investment - protection, care and nurturance - in their offspring. Infant mammals are orientated to the care of their parents, seeking this out and willingly receiving it. When distressed, infants and children signal to their mothers (and sometimes fathers) this distress, searching for contact and nurturance. In meeting this urge - the mother responding with proximity, touch, stroking, feeding and nurturance - distress in the infant is regulated and often alleviated.

The experience of this type of affectionate, caring and nurturing interaction gives rise, over time, to neuronal connections in the soothing system. Moreover, it is key to this interaction that the parent is orientated to their offspring and motivated to care, and to notice and respond appropriately, to signals of distress. Recent research has shown increased levels of oxytocin in mothers and fathers during affectionate contact (play) with their infant, and in turn, greater affectionate touch and play stimulates higher levels of oxytocin in infants (see Feldman, 2012, for a review). The quality of this relationship in early life has a significant impact on a whole range of processes, including the maturation of biological and neurophysiological systems, activation and expression of genes, and functioning of psychological competencies (Gerhardt, 2004; Cozolino, 2007; Belsky & Plessey, 2009).

Our evolved capacity to care and nurture, adapted within the attachment system, originally functioned as a way of maximising the survival and fitness of the offspring. As Cozilino (2007) puts it: 'We are not the survival of the fittest. We are the survival of the nurtured'. Caring for other family members and non-kin emerged out of this care-giving to our young. For example, archaeologists have found evidence that for at least 1 million years humans have provided care for each other, not just infants and children. Fossil records indicate that our ancestors, even with serious diseases or bone fractures that would incapacitate and lead to death, survived these events to live for many years more. Surviving with these types of illnesses and disabilities a million years

ago would only be possible if other people in one's social group provided a substantial amount of care. Modern research has found that affiliative, caring relationships are not just physiologically regulating for infants, but also have a significant impact upon the regulation of genetic, neurophysiological, and psychological processes in adults as well (Cacioppo & Patrick, 2008; Feldman, 2012). Just as in childhood, distressed adults need the care and support of others to feel calmed and reassured. In this, there are certain qualities of other people that are generally seen as helpful, such as caring, empathy and support. So, engaging in affiliative relationships (soothing-affiliative system activation) helps to regulate threat system activation no matter whether you are an infant, child, adolescent or adult.

Out of this capacity for extended care emerges compassion. Dacher Keltner, an American psychologist, suggests a number of reasons why the capacity for compassion evolved in humans, including enhancing the wellbeing of vulnerable offspring, being an attractive quality in mate selection and facilitating cooperative relationships in non-kin. Whatever the reason(s) for evolving compassion, it seems to provide benefits for our offspring, our kin and in developing helpful, supportive and cooperative relationships with others. A common definition of compassion is: 'sensitivity to the suffering of self and others, with a deep commitment to try to alleviate it'.

Compassion, Suffering and Well-Being

Whilst the above provides an outline of the evolutionary background to compassion, it is useful for us to consider why compassion matters. What, if any, benefits does compassion confer? There is now an emerging science of compassion, spanning diverse areas of investigation including biology, neurophysiology, developmental psychology, social psychology, affective neuroscience and psychotherapy. A variety of cross-sectional studies have highlighted that those who have higher levels of self-compassion are more likely to have lower levels of depression and anxiety symptomology, as well as reporting lower levels of shame, self-criticism and rumination (Ferreira, Pinto-Gouveia, & Duarte, 2013; Krieger, Altenstein, Baettig, Doerig, & Holtforth 2013; MacBeth & Gumley, 2013).

However, just as with physical fitness or developing the skill to play a musical instrument, or with sports like golf or tennis, our capacity for compassion needs to be cultivate and practised over time. Studies have found that when people practice compassion-based exercises, there are important changes in a variety of neurophysiological and neurobiological changes. Increased self-report levels of compassion are associated with improved immunological response (Lutz et al., 2008; Pace et al., 2009), reduced levels of negative emotion and mental health symptomology and increased levels of positive emotion, well-being and happiness. (Neff & Germer, 2013).

Compassion Focused Therapy (CFT)

The idea of practicing, or cultivating, compassion is key to the development of our work on CFT for people with a variety of mental health problems. We have found that training people to develop their compassionate skills – for others and themselves –

can be helpful in a variety of diagnoses, including symptomology in depression, eating disorder, schizophrenia and personality disorder (Laithwaite et al., 2009; Gilbert & Proctor, 2006; Lucre & Corten, 2012; Gale et al., 2012). Moreover, we are also beginning to find evidence for this type of intervention in different types of settings, including community mental health teams (Judge, Cleghorn, McEwan, & Gilbert, 2012) and inpatient wards (Heriot-Maitland, Vidal, Ball, & Irons, 2014)

Compassion Focused Therapy (CFT) – Multi-Modal Therapy

In CFT, our definition of compassion as: 'A sensitivity to the suffering of self and others, with a deep commitment to alleviate it and prevent it returning' subsumes two psychologies of compassion (Gilbert, 2009). The first involves being sensitive and open to suffering (and its causes) and to move towards and be willing to engage with it. There are a number of different qualities that contribute to this first psychology of compassion, including motivation to be caring, sensitivity to distress, sympathy, distress tolerance, empathy and non-judgement. In comparison, the second psychology of compassion involves the desire and attempt to alleviate suffering; to be motivated to reduce suffering and prevent it from returning.

There are a variety of ways in which we can practice and develop skills that help to cultivate the qualities of the first psychology of compassion, and through doing so, finding ways to alleviate distress. These including developing *attentional skills*, often through the practice of mindfulness, as well as creating more flexibility and helpful *reasoning*, along with certain types of positive *feelings and emotions*, and a variety of *behavioural interventions*. We also use a variety of *imagery* and *sensory-based* interventions.

Summary

The origins of compassion have deep roots in our evolutionary history and in particular, the evolution of attachment behaviour linked to care, nurturance and affiliation. There is a growing research field looking at the *science of compassion*, and in particular, its associated neurophysiology, its link to health and wellbeing and how it may be taught and used as a way to treat psychological distress. Rather than a passing 'fad', or something 'we all just do', research is highlighting the nuanced, complex nature of compassion, it link to early attachment experiences, and just how difficult it is for some of us to experience (Gilbert et al., 2011). Approaches like CFT are developing interventions that are focused on helping individuals and organisations to cultivate compassion; future research will focus on how this may be done in increasingly effective ways.

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