

4

# Self-Compassion: An Evolutionary, Biopsychosocial, and Social Mentality Approach

Paul Gilbert

# Introduction

This chapter offers an evolutionary and biopsychosocial approach to self-compassion. It considers the evolution of compassion as emergent from mammalian caring behavior (Gilbert, 1989/2016, 2000, 2020) regulated via the evolution of a range of human cognitive competencies that enable us to reason, mentalize, and have mindful consciousness of consciousness (Gilbert, 2019, 2020). These competencies are also the basis for self-awareness, which has positive and useful effects, but can also have harmful ones, such that Leary (2004) calls it "the curse of the self."

Before exploring how compassion is applied to "the self," it is important to explore the concept of compassion in general because it has been defined in different ways (Gilbert, 2017; Mascaro et al., 2020). One approach is to explore what clusters of psychological phenomena that characterize compassion. In a major review of the literature, Strauss et al. (2016) suggest compassion is made up of five components: recognition of suffering, understanding its universality; feeling sympathy, empathy, or concern for those who are suffering (which we describe as emotional resonance); tolerating the distress associated with the witnessing of suffering; and motivation to act or acting to alleviate the suffering. (Strauss et al., 2016, p. 25)

A different evolutionary approach which is complementary has been to track the phylogeny of motivations like care and compassion and identify their basic if A then do B algorithm. Algorithms underpin most functioning systems. For example, air-conditioning systems work on the principle that if temperature goes below a certain level, then the air-conditioning will automatically turn off and *if* the temperature goes above a certain level, then the air-conditioning will automatically turn on. All it needs is a temperature detector that is linked to an output system. A human body example is *if* temperature goes too low, we then shiver; if it goes too high, we then perspire. Behavioral algorithms for threat can be as follows: *if* confronted by a threat (stimulus), then a defensive behavior (response) becomes activated and engages in fight or flight. For eating, it would be as follows: if stimulus indicates food, then approach, salivate, and eat. If stimulus indicates sexual opportunity, then approach and engage in courting. Clearly, these motive-based algorithms depend on key *feature detectors* that are linked into physiological systems that then support specific actions. For example, the amygdala and sympathetic nervous system are

P. Gilbert (🖂)

Centre for Compassion Research and Training, College of Health and Social Care Research Centre, University of Derby, Derby, UK

The Compassionate Mind Foundation, Derby, UK e-mail: p.gilbert@derby.ac.uk

<sup>©</sup> Springer Nature Switzerland AG 2023

A. Finlay-Jones et al. (eds.), *Handbook of Self-Compassion*, Mindfulness in Behavioral Health, https://doi.org/10.1007/978-3-031-22348-8\_4

important for detecting and responding to threat. Damage to the amygdala can mean that animals may not detect threats in their environment and/ or not respond to them if they are detected. These algorithms can also be attuned through learning. In humans, the cognitive interpretation of a stimulus can trigger the threat response (e.g., a rise in heart rate triggers fear of a heart attack). However, it is the linkage of stimulus-detector response that is crucial to the algorithm.

The algorithm for caring is *if* encountering signals of distress and need then activate a range of physiological systems that have evolved for caring behavior. Looked at this way, a derivative of caring, compassion, can be seen to have evolved from (among other routes; Kessler, 2020) mammalian caring behavior, friendship formation, and concerns to make a useful contribution to the lives of others (Carter et al., 2017; Mikulincer & Shaver, 2017, 2014; Gilbert, 1989/2016, 2009; Gilbert & Simos, 2022; Mayseless, 2016; Goetz et al., 2010). It is useful to be able to identify the algorithm (the stimulus that needs to be detected and the appropriate response) of the caring motive because then we can identify the physiological infrastructures on which it rests. In fact, a good deal is now known about the evolution of the physiological processes of caring behavior. Especially important ones are hormones such as oxytocin, vasopressin, and endorphins (Brown & Brown, 2015; Carter, 2014; Carter et al., 2017); changes in the autonomic nervous system, especially the vagus nerve (Porges, 2007, 2017); and specific neurocircuits (Kim et al., 2020a, b; Singer & Engert, 2019).

Although the "*if* encountering signals of distress and need (e.g., in offspring), *then* act to alleviate and prevent suffering and distress" appears simple, there are many subroutines within it. For example, a mammalian parent, usually the mother, must be able to identify a particular kind of "distress signal/call and need" to identify the appropriate action that will alleviate the distress. The caring action may be to rescue or protect the infant, keep the infant warm, feed the infant, and, more generally, provide a secure base and safe haven for the infant's development into maturity (Cassidy & Shaver, 2016). In the case of a human mother caring for her infant, she will supply many different resources for that infant, providing not only for their physical needs but also for their psychological developmental needs. For example, she will play with her infant, share positive emotions of joy and love, encourage her infant to take risks, and teach, mentor, and demonstrate so her infant learns life skills (Cassidy & Shaver, 2016). In addition, parental caring involves mentalizing (see below) the child and validating the child's experiences (Luyten et al., 2020). In close states of connectedness, mother and infant can be in physiological synchrony, meaning that their interactions are maturing physiological profiles that underpin the development of compassionate motivations in the infant (Feldman, 2012; Lunkenheimer et al., 2018; McFarland et al., 2020). This is partly because providing care and receiving care operate through similar physiological systems; for example, oxytocin is triggered when we receive care and support from others, but it is also a hormone that supports our interest in being caring (Carter, 2014). What "offspring" require from their mother changes significantly as they mature into a child, proceed into adolescence, and continue into adulthood.

None of this can even begin without a preexisting motivation to care. In contrast, callousness can be defined as a lack of motivation and an indifference to the needs and suffering of self and others. Caring then involves being motivated to notice; being sensitive and attuned to signals of distress, need, or suffering; and then switching attention to *what is required* to help the one being cared for. This may be providing nutritious foods, shelter, and warmth; appropriate education; and loving, playful, affectionate interactions that stimulate a range of psychophysiological systems that are conducive to well-being. There is now considerable evidence that the caring we experience in childhood has profound effects on our sense of ourselves and whether we are prone to self-criticism or self-acceptance and selfcompassion (Music, 2016; Cassidy & Shaver, 2016). Whether we are loved, neglected, or harmed can have a major impact on our epigenetic profiles (Cowan et al., 2016; Slavich, 2020) and brain maturation (Lippard & Nemeroff, 2020), which in turn have profound impacts on the organization of motives and emotions and sense of self. Hence, when working clinically, helping people develop more accepting, selfreassuring, and compassionate orientations to themselves may require considerable work, as experiencing care and support in this way might be unfamiliar or frightening to them. This may also involve working through early traumas and multiple fears and resistances to compassion (Gilbert, 2022a).

What the mother (i.e., care provider) must also do is to keep track of the infant's development and be alerted if problems are arising which will require a change of action. In essence, she must be alert to signals of distress and also the signals of deviation from expected developmental trajectories which indicate unmet needs. Hence, carecompassion can be defined as a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it. In other words, whether we are talking about compassion to others or being compassionate to ourselves, both are rooted in a motivation to pay attention to suffering (not turn away from, dissociate, or deny) and then find the appropriate wisdom to know what to do and, if not known, then be motivated to find out.

The concept of prevention of suffering is implicit in Buddhist definitions of compassion. For example, in a collection of lectures, the Dalai Lama (1995) explains that compassion is the motivation to try to alleviate suffering and the causes of suffering in all sentient beings. Hence Gilbert and Choden (2013) highlighted that the element of prevention is essential for the full definition of compassion. In addition, we highlighted that adding the concept of prevention has significant implications for how we think about compassion because it requires us to be forward-thinking and address needs to prevent suffering in the future. When it comes to selfcompassion, therefore, understanding what enables us to flourish and how to prevent future

suffering must be part of self-compassion. Hence, recognizing that smoking or drinking too much and eating the wrong foods are damaging to one's health, and changing one's behavior, would be examples of self-compassion.

This implies another key principle of compassion which is that we become aware how we may easily and inadvertently cause harm to ourselves and others. We can be callous in pursuing our own needs at the expense of others' needs. For example, we know that many children die every day through lack of clean water, insufficient food, and poor-quality medicines, yet we spend more money on feeding our pets and on our gardens than we do in addressing this tragedy. Vegetarians argue that meat eaters are callous to the suffering of their food. We can also show a certain callousness "as indifference to the suffering we cause ourselves" through our pursuit of pleasures as in smoking, drinking too much alcohol, and eating too many chips and pizzas. We can also be very self-harming, both literally and in the way we think about and treat our own minds. For example, there is a large literature showing that harsh forms of self-criticism are associated with many forms of mental health difficulty (Werner et al., 2019; Gilbert, 2022c).

Therefore, care and compassion require us to be attentive to our potential to cause harm to self and others and adopt a motto of life which is "may I live to be helpful not harmful to self and others." Helpfulness and harmfulness can also be applied to our mental lives, and indeed most discourses on self-compassion tend to focus on mental life. A holistic, biopsychosocial approach to self-compassion requires us to be aware that there are many sources of harmfulness to the self, including, for example, diet, lack of exercise, overworking, and staying in toxic relationships. This is particularly true when we recognize that our diets can have a significant impact on a whole range of physiological systems including the vagus nerve which plays an important role in well-being and compassionate behavior (Breit et al., 2018; Di Bello et al., 2020). In compassion focused therapy (CFT) (Gilbert, 2020), mind awareness is cultivated alongside body awareness and body cultivation. Hence, some of the compassionate mind training exercises that are part of CFT offer insight and guidance into how to train/use the body to support the mind. For example, the importance of developing vagal tone, how to use breathing exercises to settle and ground the body and mind, how to use posture and exercise, and paying attention to diet which can influence the vagal nerve have been developed in compassion focused therapy (CFT) (Gilbert & Simos, 2022) and by Porges and colleagues (Porges & Dana, 2018).

#### From Caring to Compassion

Although many animals care for their young, and at times each other, compassion is not a term we would typically use to refer to these behaviors. In CFT, compassion requires certain types of cognitive competencies to direct our caring motives and with knowing intentionality. These cognitive competencies have been evolving over the past few million years or so on our journey to becoming Homo sapiens and have impacted how motives and emotions are activated and regulated. They are also responsible for making us the dominant species that we are. There are at least three types of competencies that underpin compassion: nonsocial reasoning, social reasoning, and consciousness of consciousness (Gilbert, 2019, 2020, 2022b).

#### Nonsocial Reasoning

Humans have evolved extraordinary competencies for reasoning. Byrne (1995) called humans *the thinking ape* and more recently drew attention to the evolution of *insight* (Byrne, 2016). Baron-Cohen (2020) called us the *pattern seekers*, that is, a fundamental attribute of our intelligent mind is to seek "if-and-then" patterns. We have evolved competencies for language and symbol use and thinking in time (i.e., I can act now because of what I want my future to be; study for a career). The use of internal representations (which can be in the form of imagery) plays a key role in our functioning. Sometimes we experience intrusive imagery as in trauma flashbacks, finding ourselves going over an argument we have had, or worrying. However, we can also knowingly and purposely use imagery to problem solve. We can imagine and run "what if ... " and "suppose that..." and "imagine this..." simulations in our mind. We can also run imaginary simulations in our mind deliberately to stimulate physiological systems, as in sexual fantasy. Compassion focused visualizations take advantage of this link between our imagined experiences and our physiological responses (Gilbert & Choden, 2013). Together, with other competencies, these enable us to form complex mental representations of the world. Among these representations are the representations we have of ourselves in relationship to others – particularly whether we are cared for, can contribute, and are valued. This is important, because these interpersonal representations play an important role in our mental well-being. Accordingly, a key component of self-compassion about is addressing the need for interconnectedness.

Cognitive therapists (Beck, 1987; Beck et al., 1985) highlight the importance of understanding how people consciously reason, how they come to the conclusions they do, and how they form expectations and derive attributions. These cognitive dimensions are extremely important for our ability to understand suffering and needs in self and others and, by forming mental representations in our minds, work out what is likely to be helpful, either immediately or at some point in the future. The way we think about the nature of suffering and the causes of suffering can help us deal with suffering or can make it much worse. In the Buddhist traditions, this is called the sutra of the two arrows. If we are shot by an arrow, the first pain is from the arrow itself, while the second is our reactions to it, of wondering how this could have happened, who did it, and what does it mean for the future. Crucial to how we deal with life setbacks, disappointments, and failures are the thoughts and feelings we have about ourselves. We may experience shame-based selfcriticism. Self-criticism is typically linked to monitoring some standard ideal or outcome we failed to achieve. Even when we are trying to be "mindful," we can have a stream of self-critical thoughts such as that we are not doing it correctly, other people can do it better than us, or we will not be able to achieve what we want to achieve and be rejected. There is a complex relationship between the fear of failing, fear of being rejected/excluded and self-criticism (Gilbert, 2022c). We may also label ourselves as stupid, pathetic, and incompetent. While some people self-criticize because they feel they could and should do better, others have a more pathogenic form which is of self-hatred, commonly linked to early abuse. While both are the opposite of selfcompassion, they require different interventions (Gilbert, 2022c).

## **Social Reasoning**

Evolutionary theorists have argued that in addition to using general principles of reasoning, when it comes to social relational events, we have specialist ways of reasoning. For example, how do you come to decisions about whether you are sexually attracted to somebody and if they are sexually attracted to you? How do you make decisions about how dominant or controlling somebody seems the first time you meet them or if this person is somebody you would like to make friends with and cooperate with or not? Although there is clear evidence that several species show elements of understanding the emotions and mind of others of their own kind (De Waal & Preston, 2017), humans have evolved extraordinary competencies for what is called mentalization. This is an umbrella term that covers theory of mind, empathy, perspective taking, metacognition, and reflection (Fonagy et al., 2018; Kim, 2015; Luyten et al., 2020). Broader than empathy, mentalization also takes in our scientific understanding about the nature of mind which helps us to understand and think about our minds and the minds of others.

Some people can be extremely talented at reasoning, making them excellent scientists, but not be that good with mentalizing the mind of self or others (Baron-Cohen, 2020). The essence of mentalization is therefore the ability to understand the nature of a mind as motivated, intending and feeling. Caring behavior is greatly advanced in humans because we can mentalize and are able to understand both the nature of mental states (which can include suffering) and what will help the one who is suffering. Importantly, self-mentalization is the ability for us to understand our own mental state and minds. to have insight into what motivates us, and why we feel what we feel and think what we think (i.e., metacognition). When helping people with mental health problems develop self-compassion, it sometimes takes a while to help them mentalize themselves and really begin to understand the sources of their suffering. In a way, that is one of the main functions of psychotherapy – to help people understand their mind. Therapists have highlighted the fact that we can dissociate from pain and deny it if and when we feel overwhelmed by it. Examples may be that, rather than trying to heal trauma memories using compassion, we try to avoid thinking about them and dissociate from them. Rather than acknowledge that our mental pain is causing our alcohol problems, we simply deny we have a problem. Clearly, these defenses interfere with our capacities for self-compassion. Self-compassion can also fail when we have not been able to work out what our needs are, because obviously then we can't do what we need to do to sustain ourselves. We may fear compassion because of the pain it touches on, or because we feel we do not deserve it.

# **Consciousness of Consciousness**

Humans are a unique species because we can be conscious that we are conscious. We not only can have a thought, an emotion, or a desire, *but we can know that we are having them*. We can be mindful and observe our mind, and deliberately and purposively direct our attention to observe our mind. Hence, we have self-awareness which comes with the desires for self-identity. Many evolutionists see this as a fundamental distinction 58

between humans and other animals (Leary & Buttermore, 2003). It is not all for good however, and Leary (2004) highlights how self-awareness can be something of a curse because it can drive us to overly self-monitor, self-criticize, feel shame, and experience depression and suicidal thoughts and behaviors. It can also drive us to violence and other defensive and destructive behaviors when we seek to protect ourselves or take vengeance on those who have attacked or shamed our sense of self and identity.

Nonetheless, self-awareness and being conscious of being conscious are partly what drives compassion. For example, we can care for our gardens, cars, and houses, but if they become damaged in some way, we don't have compassion for them. Compassion is reserved for sentient beings with a type of consciousness. If I break my leg, although the pain is in my leg, I don't say my leg is suffering. I say I am suffering because I am experiencing pain. So, compassion relates very much to the dimension of understanding the nature of conscious experiencing. Other animals can certainly show concern for each other; for example, there is evidence that rats won't pull a lever for food if they associate it with a cage mate getting an electric shock (De Waal & Preston, 2017). However, this is far from having a *conscious awareness of the suffering* of the cage mate. This awareness of conscious experiencing is also part of mentalization and central for mindfulness.

## **Knowing Intentionality**

These three competencies together give rise to what one can call knowing intentionality. One example of this is that lions can intend to chase down and kill their prey. However, they can't do this knowingly; they don't consciously know that they are engaged in hunting behavior or causing suffering, they can't do it mindfully, and they can't suddenly decide that ripping the throat out of another animal to eat it is rather callous and it might be better to become a vegetarian. Nor can they decide to get up in the mornings and go circuit training on the savannahs to become better hunters. The fact that we can make these conscious choices is a game changer in our evolutionary story (Leary, 2004) because it means that we can choose to direct our motives deliberately and purposively. This is depicted in Fig. 4.1.

**Complexities of Knowing Intentionality** For us to develop empathy for others, we need insight into our own minds; the question is, how do we achieve that? One mechanism is via the activity of mirror neurons, whereby we can stimulate similar circuits in our brain when we observe mental states in others (Corradini & Antonietti, 2013). Another important dimension of knowing intentionality is awareness of what is happening inside our own bodies in relationship to how we are interacting with the environment. For example, attention has been directed to what is called



interoception (Arnold et al., 2019; Khalsa et al., 2018). Nonsocial forms of interoception relate to detecting hunger, thirst, temperature, and various aches and pains as guides to taking action. In addition, we have awareness of changes in emotional state; examples are noticing our heart rate increases when we become angry or anxious or becoming aware of the feelings in the body when we are happy. In addition, there is the question of how we link our body experiences when in social interactions. For example, in a potential argument, we can be aware of a rising heart rate and facial expression changes and sense of threat that might make us cautious about how we proceed. These different areas indicate the complexity of self-compassion because we can't be compassionate unless we have insight into what we are feeling, thinking, and experiencing. Hence, before some people can develop self-compassion, it will help to have insight into the nature and textures of the mind and their felt experience of different affective states. For example, how can I be compassionate to my depression if I'm dissociating from depression or in denial?

## Self-Care Versus Self-Compassion

If we distinguish care and compassion in terms of suffering and having a sentient mind, then we can distinguish between self-care and selfcompassion. Self-care is the ability to understand our needs and to address them in a way that is helpful and not harmful. For example, keeping ourselves clean (basic hygiene), keeping fit, eating appropriate foods, resting appropriately, not overworking, and generally looking after ourselves are part of self-care. Motivation remains crucial. For example, we may spend a lot of time in the gym not because we want to "care and look after" our bodies but because we want to look attractive or are fearful of being seen as overweight. Nonetheless, individuals can be keen to care for their bodies in relation to their physical health but fail to see the same need for care when it comes to their mental health. People can be harshly self-critical, even driving themselves into anxiety and depression in certain circumstances (Gilbert, 2022c). They may also find being open to the compassionate support and help of others difficult or hard to develop trusting friendships. They may lack insight into what nourishes the mind and promotes well-being, social connectedness, and flourishing.

# The Competencies of Human Caring and Compassion

Our new brain competencies offer new ways to approach, activate, and cultivate compassion and the two basic elements of its algorithm of (1) (stimulus) detection and engagement and (2) appropriate (response) action. When using compassion as a guide in therapy, these two elements of compassion can be broken down into their sub-skills that recruit our new brain competencies. Over the years, I have suggested six competencies for engagement and six for appropriate action but only as guides (Gilbert, 2009, 2020). These are given in Fig. 4.2.

Starting our exploration at "9:00 o'clock" on the inner circle, everything begins with concern and care for our own or others' well-being. To engage with the distress in ourselves or others, we must be motivated to be present and aware rather than turning away, dissociating, engaging in denial, or being callous. Then moving around clockwise, we come to sensitivity to the signals of distress and need. This involves some degree of mindfulness. If we are not sensitive, we may not be aware of distress. Being sensitive and noticing distress stimulate a reaction which is called sympathy. Sympathy is related to personal distress and being moved by the plight of self or others (Eisenberg, 2003; Eisenberg et al., 2015). Often, when we are engaging with distress and pain, this can be one of the first exit routes out of compassion, because we can become overwhelmed and close down or pull away. Following logically then, the next competency is called distress tolerance. This is a basic skill that many therapists seek to develop. It typically involves gradual exposure toward what is feared or avoided, along with at times cognitive reappraisal. CFT supports these distress tolerance



Fig. 4.2 Domains for the therapeutic process. (Adapted from Gilbert (2009). Compassionate Mind. Reprinted with permission from Little Brown)

interventions by teaching people how to access grounding and soothing systems through mindfulness and breathing techniques, among others (Petrocchi & Cheli, 2019). As we develop distress tolerance, we are likely to be able to mentalize (Luyten et al., 2020) and empathically engage with the distress and suffering of self and others. Mentalization enables us to have insight into the nature of our minds and those of others; we can make sense of what is being experienced. In addition, empathy requires us to keep a clear boundary between self and others so that their pain is not mistaken as our pain.

The final competency in the circle is called open non-judgment. It is open because we are not closing down around the nature of our own or other's suffering, and we are non-condemning. Non-judgmental does not mean simple acceptance, because when we recognize distressing feelings in ourselves, we can take steps to change to more helpful ones. In addition, even if we enable acceptance, it does not mean that the *actions* associated with certain brain states are acceptable. In some cases, we will choose not to act on triggered impulses (e.g., vengefulness) but to act against them because we have the mentalizing competency of insight into the consequences or harmful action. Importantly, these six competencies are not linear but support each other. For example, imagine how each of these six competencies might be affected if any of the others were lost.

The outer circle represents the *action-response* qualities of compassion. If we go to hospital with a broken arm and we experience a very empathic doctor who shows all the qualities of the first circle, that will not be enough to help us. We will also want them to have the wisdom to know how to fix the broken arm and take us out of pain. Clearly then, intentionality and the abilities to engage with suffering are not enough; we need wise action. Hence, beginning in the outer circle, we can start by paying attention not to the suffering but to what is likely to be helpful. We can use images and run simulations in our minds and use our new brain reasoning competencies to think through and problem solve. Our capacities for reasoning will also be linked to the knowledge we have about the nature of suffering and how it can be alleviated. So, for example, the doctor can recall his/her training that s/he may have acquired over many years to support compassionate action toward healing the broken arm. When it comes to our own mental states then, again the more we understand about the nature of our brain, and how it creates the desires, emotions, impulses, fears, hopes, joys, ruminations, and plans in the way that it does, the more wisdom we can bring to generating compassionate ways to help our minds with the ups and downs of life. The feelings we have when acting compassionately will depend on what the action is.

At the center of compassion therefore has to be courage to engage with pain and difficulties linked to knowing what to do. Wisdom without courage and courage without wisdom are not helpful. However, the nature of the courage and wisdom we may need for any particular source of suffering will depend on context. For example, a firefighter about to enter a burning house is likely to be anxious and will need ways to contain their anxiety to pursue the intention to rescue. In addition, they will need particular "wise" skills. In contrast, a counselor counseling a bereaved client might feel sad and be able to contain sadness to provide support; these are very different skills to that of the firefighter. In contrast, somebody fighting injustice will need to work with different themes and different emotions and have different skills. Despite these major differences, what links them is the motivation to address and prevent suffering. This is what makes motivation, rather than any specific emotion, central to compassion. Note, too, that these skills might not be interchangeable because our brave firefighter might not make the most empathic or compassionate parent and our counselor might not make the most courageous firefighter. It is important to see that compassion is not one process and varies with context.

It is the same with self-compassion. What self-compassion will involve will depend on the context of our suffering. Trying to be selfcompassionate and supportive when we have just been diagnosed with cancer, and going through treatments, requires a very different set of skills than if we are dealing with depression, coming to terms with lose of loved one, addressing trauma memory of past abuse, learning to be assertive in the face of a bully, leaving a toxic relationship, or making determined efforts to lose weight on health grounds. Clearly then, what links all of these different processes is compassion *motivation* rather than a specific emotion or skill.

Compassion therefore does not have a particular emotion when it is engaged in action. In their paper *Compassion Is Not a Benzo*, Di Bello et al. (2021) highlight the fact that if we are to engage with suffering, then our threat system processes will be activated, and it is how we tolerate and encourage ourselves to behave wisely in those situations that is crucial. The misunderstanding that we need a calm mind to be compassionate is clearly incorrect. When we are engaging with compassion, we are not going on our holidays, but descending into suffering, pain, and difficulty where we need a focused, grounded, courageous mind, not necessarily a calm or fearless one.

Self-compassion is the ability to direct these 12 competencies toward the self. In other words, we can be motivated to be self-compassionate and be attentive and sensitive to sources of our pain and suffering. We can tolerate that distress and begin to empathically attune to understand it and its causes without being harshly self-critical or condemning. When it comes to taking action and how to help ourselves, we can use our new brain competencies to refocus attention, pull on our wisdoms, run imaginary scenarios in our mind, use our abilities to reason and think through things, and maybe discuss with, and seek out, help from friends, mentors or professionals. In any moment of distress, we can be attentive to the body and tolerate feelings that arise as we take action.

There is also increasing evidence that different aspects of self-compassion affect us quite differently. For example, the three positive components of Neff's concept of self-compassion, namely, kindness, mindfulness, and sense of common humanity (Neff, 2011), are significantly linked to measures of well-being and flourishing but less so to measures of mental health difficulty. In contrast, the three negative factors of self-judgment, sense of isolation, and overidentification or absorption are more robustly linked to mental health problems (Gilbert et al., 2017; Pandey et al., 2021). Related to this is that selfreassurance has a greater moderating impact on depression than self-esteem, indicating that all positive self-evaluations do not have the same impact (Petrocchi et al., 2019). Moreover, although measures of self-reassurance and self-compassion are often highly correlated, they are also different. Self-reassurance is focused on a sense of encouragement and the ability to remember one's strength and abilities in times of difficulty (Gilbert et al., 2017). Self-reassurance, like kindness and assertiveness, *is a way of being compassionate* but is not compassion itself.

#### Wisdom of the Minds We Have

Understanding the nature of our minds is crucial for our ability to become self-compassionate. This can take us into difficult territory of understanding what it is to be a gene-built biological being with a conscious mind. We are, like all other species, a biological creation built to simply survive and reproduce. Considering all other life forms past and present, that is basically all a life form does. Hundreds of millions of years, even before the dinosaurs, it was simply a process of eating and reproducing before being eaten or decay and death. Indeed, no living thing chose that existence or to be what it is. No elephant chose to be an elephant, no rabbit a rabbit, and no human a human. No human chose to be a man or a woman, nor their ethnicity, nor the illnesses they will be vulnerable to, nor where they were born and the families that matured them. We are all running the algorithms that nature has set in our brains and our social experiences have finetuned. Clearly, if we have been brought up in a violent background or a very loving background, much of what we become would be different, even our genetic profiles (Cowan et al., 2016).

These are fundamental insights when working with clients. They are the root of compassion because it helps us understand the real meaning of common humanity. We are all biologically created in ways we never chose and socially programmed in ways we never chose. All of us are caught up in various traumas and tragedies of life, some worse than others. All of us have a brief time here, maybe 30,000 days if we are lucky: all of us decay and die, and some of us rather painfully and slowly (e.g., cancers and dementias). All of us become conscious we exist in a body and a brain that have all kinds of impulses and feelings which have been built for us not by us. All of us want to be happy rather than suffer. It is when we personally overidentify with these algorithms and programs that we can get into difficulties. The greatest challenge of all humans is to begin to understand that we are programmed beings, but we can also become "mind aware" of our programming and begin to choose how to live. We can knowingly and intentionally try to live to be helpful not harmful, recognizing that we have within us the seeds of great harmfulness. The point of this is to highlight the fact there are many different wisdoms that can orientate us to a compassionate life.

# **Social Mentalities and the Self**

An important aspect of evolution that can throw light on the process of self-compassion is social mentality theory (Gilbert, 1989/2016, 2005, 2017). This highlights the fact that all social motives must coevolve in the context of dynamic, reciprocal interactions and are therefore attuned to such. The evolution of caring behavior is an excellent example of a coevolved social mentality. Before the evolution of attachment and parental investment, reproductive strategies were to produce hundreds, sometimes, thousands, of offspring, very few of which would survive until adulthood. However, a different reproductive strategy evolved with parental investment, whereby very few offspring are produced but they are cared for and provisioned during their maturation into adulthood. This means there is a carer (usually, but not always, the mother) and a cared for, i.e., the infant(s). This is evolving as lock and key because clearly, infants cannot evolve to be dependent on resources from a mother if the mother is not also evolving motives and competencies to be aware of the needs of her infant. The attachment system of mother-infant is thus a clear example of a coevolved, co-regulating process. What is evolving are the physiological infrastructures to be able to engage in these behaviors. Species that produce high numbers of offspring clearly do not have these physiological systems. Importantly, both giving *and* receiving evolved and involve overlapping physiological systems such as the vagus nerve, the hormone oxytocin (Brown & Brown, 2015; Carter et al., 2017; Porges, 2017, 2021), and neurocircuits (Kim et al., 2020a, b).

# The Psychological Functions of the Evolved Caring and Attachment Systems

As noted above, parental caring relationships have a range of functions, from feeding, to protecting, thermal regulation, and supporting psychophysiological maturation and regulation (Cassidy & Shaver, 2016). The quality of care we receive also impacts epigenetic development (Cowan et al., 2016). In addition, the evolution of caring behavior provides three main psychological functions for the developing infant. These were identified over 50 years ago by primate researchers, developmental psychologists, and child psychotherapists (Music, 2016; Cassidy & Shaver, 2016). Attachment theorists (Ainsworth, 1969; Bowlby, 1969) highlighted the fact that across species, a caring parent provides key psychological resources to the infant that impact its subsequent psychosocial maturation. From an attachment perspective, these include a secure base, which in the human context provides multiple inputs to the child including protection, encouragement, support, and signals of warmth, joy, love, and affection along with emotion and behavioral guidance. These enable a child to internalize a sense of his/her own acceptability and lovability in the eyes of others, which builds social confidence and emotion regulation (Music, 2016; Cassidy & Shaver, 2016). Children who do not receive such inputs are more threat sensitive, vigilant, and less trusting, which can compromise well-being (Music, 2016; Cassidy & Shaver, 2016). They are also prone to be more self-critical and less self-compassionate (Gilbert, 2022c).

A second key resource is called a *safe haven*, which is the ability of the parent to act as a soothing object and to help regulate arousal and distress in the infant. There are various caregiving behaviors that can achieve this, including soothing voice tones, stroking, hugs, and facial expressions that convey a genuine sense of empathic connection and concern. As children grow, they can develop transitional objects such as teddy bears that have soothing qualities. In addition, they can develop imaginary friends that can be a source of support (Taylor et al., 2009). As a result of these two core qualities of secure base, that is, encouraging and guiding, and safe haven, that is, soothing and comforting, the parent and child have what is called proximity-seeking and maintenance systems. This third key resource creates motivational orientation such that when the child is distressed, it will seek out those that can guide, comfort, soothe, and support him/her.

Understanding these three core resources of caring is fundamental to understanding the many of the functions of all forms of caring and compassion including to self and to others. It means that when we are being self-compassionate, we can create an inner secure base. We can turn within (proximity-seeking to our inner supports) to find self-reassurance, self-encouragement, and self-support which enables us to face things that are difficult. Indeed, self-compassion is not passively reacting, but actively preparing ourselves for our (heroic) journey through life and to be able to take on its challenges for growth, setbacks and traumas, decay, and death.

We can also function as a safe haven for ourselves. We have within us the competencies for self-regulation and self-soothing. These functions are originally internalized from early attachment relationships, but in some individuals, they may have to be built and cultivated. In addition, if clients have toxic experiences of caring, such as neglect or forms of abuse or criticism, the caring system can require work to detoxify it. That can require grieving for the love and affection that was not present in childhood. In these more complex cases, it means that self-compassion provides the courage to work with one's fractured sense of attachment security. Put another way, we can begin to identify the core functions of compassion and self-compassion as the ability to be encouraging and supportive when facing difficulties and to be soothing and containing when distressed (Gilbert & Simos, 2022).

#### **Compassionate Others and Images**

Another key dimension of self-compassion is the ability to reach out to others for help. Hence, some aspects of self-compassion involve being courageous enough to ask for help. Psychotherapy clearly depends on the courage and preparedness of people to seek and be open to help and reveal the nature and extent of their suffering. Indeed, there is growing evidence that being open to the compassion of others is an important buffer against mental health problems in contrast to compulsive self-reliance (Hermanto et al., 2016). Two main reasons that people do not seek out the help of others is due to shame, self-criticism, and social distrust. Given the importance of "receiving compassion" systems in our brain, CFT tries to help people begin to stimulate the experience of receiving by generating images of a compassionate other. There is now very good evidence that imagined forms of relating can have very powerful psychological effects (Gleason, 2013). Just as we have sexual fantasies that involve imagined interactions to stimulate an arousal of specific physiological systems, we can *imagine* interacting with a compassionate other(s) to stimulate compassion systems. Part of the reason for doing this is because compassion is rooted in a social mentality of sending and receiving. Hence, by developing a compassionate image, and imagining dialoguing with the compassionate image, we are activating that sending and receiving process. Importantly, some clients have difficulties generating and responding to their own compassionate images because they struggle to imagine receiving compassion and because compassion feels alien and unfamiliar. For others, it is because compassion connects them to memories of losing compassion connection via shame, rejection, and feeling sad and isolated. These experiences are worked through in the therapy (Gilbert & Simos, 2022).

Nonetheless, rather than (imagining) oneself being compassionate to oneself, some people find it easier to start being self-compassionate by imagining what a compassionate other would say to them or how an imagined compassionate other would be with them. The act of imagining what they would want their compassionate image to be like, and how they would like to relate to it, and be related to by their imagined compassionate other, is part of the work of compassion awareness. This can be a crucial first step into selfcompassion, particularly for people who have not received compassionate care in their early lives. These practices can also reveal important fears, blocks, and resistances to compassion.

Self-compassion is not a self-contained process but one that is aware of our interconnectedness, able to feel encouraged, supported, and soothed by others. Indeed, one of the reasons that low self-compassion has become a major issue in the west is partly because of the increase in loneliness and feeling disconnected from caring social communities (Becker et al., 2021; Cacioppo & Patrick, 2008). Self-compassion should not be seen as a process of compulsive self-reliance but one of developing trust in oneself and others. Many commentators have noticed that self-criticism is low in supportive communities and hunter-gatherer societies partly because individuals are highly socially connected (Ryan, 2019). There is a strong link between low selfcompassion, self-criticism, and a sense of social disconnection (Gilbert, 2022c).

### **Compassionate Self**

There are many strategies that can be used for developing a sense of a compassionate mind and self. One is to help people recognize we are genebuilt and socially shaped, and much more of what goes on minds is not of our design. Some of these are based on cognitive techniques, such as inviting individuals to think in certain ways that could offset feelings of self-criticism or loneliness. CFT also seeks to stimulate the caring mentality as it is linked to a range of physiological systems such as the vagus nerve (Porges, 2017, 2021), oxytocin (Carter et al., 2017), and various neurocircuits (Singer & Engert, 2019). Part of the training is therefore to develop the capacity to use the body to support the mind, through practicing various postures (e.g., yoga), breathing exercises, visualizations, and behavioral practices and how to create compassionate voice tones for self-reassuring thinking. The view is that if you want to run a marathon or climb a mountain, no matter how skilled you are, if you are not physically fit, you will not be able to do it. Similarly, no matter the intention, if people are not able to regulate their autonomic nervous system, for example, and have access to parasympathetic regulation, they may struggle to engage both the secure base and safe haven functions of compassion (Porges, 2021, 2017).

Compassion is based upon courage and wisdom, and both are important when we confront the realities of being a short-lived, vulnerable, biological, gene-built and socially constructed being. As noted above, on the nature of our "tricky brain," clients are guided into important evolved constructs (which offer "compassionate wisdoms on the nature of tricky mind"). Helping people to envision, create, and begin to enact a compassionate sense of self can start by inviting people to imagine particular qualities of a compassionate person and mind or their ideals of compassion, and, then like an actor, imagine becoming them. Asking people to imagine themselves in certain states of minds, such as being self-critical or self-reassuring, is associated with important differences in neurophysiological activation (Longe et al., 2010). Creative imagination of a version of oneself and exploring the impact that has on coping have been investigated in other paradigms. For example, thinking about a life problem and then imagining oneself as one's "best possible self" and exploring it from that perspective are related to emotional change and increased optimism (Meevissen et al., 2011; Peters et al., 2010). Osimo et al. (2015) created a virtual reality scenario where participants raised a personal issue and then offered themselves counseling either as themselves or as (a virtual) Sigmund Freud. Giving oneself counseling "as Sigmund Freud" reduced depressed feelings significantly more than as themselves.

Similarly, practicing positive self-imagery by recalling a time when one felt relaxed and positive was related to higher levels of self-esteem and reduced anxiety in response to anxietyprovoking vignettes such as meeting your partner's parents for the first time (Stopa et al., 2012). Gilbert and Basran (2018) invited people to talk about a minor life difficulty to a partner, who was instructed to simply listen, without saying anything, for 2 or 3 min. The person who shared their difficulty was then asked to reflect on what it was like to be listened to in such a manner and was invited to reflect on how they were thinking about their difficulty, following the experience of being listened to. They then engaged in a compassionate mind induction using the soothing rhythm breathing exercise and then to think about the problem again through their compassionate mind state. For the latter part of the exercise, participants were asked to imagine having all of the characteristics they might have if they were to embody the qualities of compassion. Participants experienced the life difficulty quite differently and had new insights as to how they might be able to work with it. Shifting their focus to a compassionate mind state enabled them to develop more empathy for the problem and imagine different ways of how to cope better. These kinds of projects reveal that switching mental states "on purpose" does create different ways in which we see the world.

### **Building a Compassionate Mind**

To understand any approach to self-compassion requires a clear understanding of that approach's view of compassion and the competencies that support it. Whether compassion is directed toward others or to oneself, it requires a set of competencies that enable a courageous and wise engagement with suffering. Compassionate mind training (CMT) has suggested six competencies for engagement and six competencies for taking action. These were described in Fig. 4.2. There are a range of processes that support these competencies and help build self-compassion. These include the following:

- 1. Using the body to support the mind: These practices are designed to help develop a range of physiological systems that support compassion. These can include posture, breathing, movement, yoga, acupuncture, diet, fitness, grounding, and settling. There are also grounding practices such as safe place and color imagery. These can be also practiced by listening to music or going into nature. Art-and music-based interventions can help people explore different aspects of compassion (Bennett-Levy et al., 2020).
- 2. Using new brain competencies: There are many practices to support mind awareness that include mindfulness, mentalization, and rational thinking. Figure 4.2 outlines six basic competencies for *engaging* with suffering. We also offered six competencies that are focused on the *action* aspect of compassion. Intention without wise action is often not helpful. Together they make up the courage and wisdom elements of compassion. What can help clients engage with these practices is to stimulate a sense of play and allow for curious exploration with pleasure from the process.

As noted throughout this chapter, there are many practices for reflecting on and internalizing core qualities of compassion. Two keys ones are: imagining one's ideal compassionate other and the experiences of relating to that image, and imagining one's own self as having compassionate skills, courage and wisdoms. In regard to the first process, one can imagine compassionate dialogs and interactions designed to stimulate specific physiological systems. The principle is no different than any other imaginary relationship, be it sexual or imagining an argument with somebody; how we imagine interactions influences our physiological state. The second is connecting to and imagining one's own core compassionate qualities, embodying them and regularly, mindfully, remembering to tune into them and practice thinking and acting from that pattern of self (compassionate mind).

 Behavioral practice: Examples of identifying and engaging compassionate ways of thinking and behaving each day with compassionate practice can include making a deliberate effort to walk in the streets with a friendly face and friendly acknowledgements and to deliberately think about how you could be helpful to people and perform helpful acts to yourself and others. Additionally, there are behavioral practices such as compassionate letter writing, listening to one's own compassionate message from a mobile phone, and asking somebody who you think cares about you for help or support.

4. Addressing the fears, blocks, and resistances: All psychological processes have fears, blocks, and resistances. For example, there can be certain emotions we are frightened to experience or express. People can be *fearful* of compassion because of what it stimulates in them, such as sadness or anxiety. People may be *blocked* to compassion because they misunderstand it or would like to be compassionate but don't know what to do, or they haven't had a chance to practice. When people are resistant, it is usually because they see it as too costly or not useful. When we are working in psychotherapy, working through the fears, blocks, and resistances to compassion is often the main focus of the work, with specific exercises and practices to help clients identify and overcome these barriers.

## Conclusion

Compassion emerged from the evolution of caring behavior. There is now a clear science of the physiological systems underpinning caring behavior and how this motivational system can be regulated by more complex cognitive competencies. Indeed, even having a conceptualization of an individualized separate self (which can be compassionate to itself) is a product of certain cognitive competencies. It follows therefore that how we use these competencies to direct motives is fundamental to how we experience ourselves in the world. Self-compassion helps us recognize the nature of personal distress and then develop the courage and wisdom to address it. The nature of the compassion we develop and express depends upon the context and the nature of the suffering we are experiencing. Self-compassion involves many things such as finding the courage to go to hospital if we are hospital phobic or to leave a toxic relationship. It can encourage, support, and guide us when we are trying to engage in health measures such as to lose weight or give up smoking. And it can help us when we are distressed and if we have become self-critical, disappointed in ourselves, or even self-hating and have somehow turned against ourselves. Hence, self-compassion is not one process but is textured by the different feelings and actions associated with those specific episodes of suffering. Nonetheless, despite many different emotions, skills, and behaviors, what links all of them is the motivation to develop the courage and wisdom to recognize, attend to wisely, seek to tolerate, alleviate, and prevent unhelpful personal suffering.

## References

- Ainsworth, M. D. (1969). Object relations, dependency, and attachment: A theoretical review of the infantmother relationship. *Child Development*, 40(4), 969–1025. https://doi.org/10.1111/j.1467-8624.1969. tb04561.x
- Arnold, A. J., Winkielman, P., & Dobkins, K. (2019). Interoception and social connection. *Frontiers in Psychology*, 10, 2589. https://doi.org/10.3389/ fpsyg.2019.02589
- Baron-Cohen, S. (2020). The pattern seekers: A new theory of human invention. Basic Books.
- Beck, A. T. (1987). Cognitive models of depression. Journal of Cognitive Psychotherapy, 1(1), 5–37.
- Beck, A., Emery, G., & Greenberg, R. (1985). Anxiety disorders and phobias: A cognitive perspective. Basic Books.
- Becker, J. C., Hartwich, L., & Haslam, S. A. (2021). Neoliberalism can reduce Well-being by promoting a sense of social disconnection, competition, and loneliness. *British Journal of Social Psychology*, 60(3), 947–965. https://doi.org/10.1111/bjso.12438
- Bennett-Levy, J., Roxburgh, N., Hibner, L., Bala, S., Edwards, S., Lucre, K., Cohen, G., O'Connor, D., Keogh, S., & Gilbert, P. (2020). Arts-based compassion skills training (ABCST): Channelling compassion focused therapy through visual arts for Australia's indigenous peoples. *Frontiers in Psychology*, 11, 568561. https://doi.org/10.3389/fpsyg.2020.568561
- Bowlby, J. (1969). Attachment and loss. Basic Books.
- Breit, S., Kupferberg, A., Rogler, G., & Hasler, G. (2018). Vagus nerve as modulator of the brain-gut axis in psychiatric and inflammatory disorders.

Frontiers in Psychiatry, 9, 44. https://doi.org/10.3389/ fpsyt.2018.00044

- Brown, S. L., & Brown, R. M. (2015). Connecting prosocial behavior to improved physical health: Contributions from the neurobiology of parenting. *Neuroscience and Biobehavioral Reviews*, 55, 1–17. https://doi.org/10.1016/j.neubiorev.2015.04.004
- Byrne, R. W. (1995). *The thinking ape: Evolutionary origins of intelligence*. Oxford University Press.
- Byrne, R. W. (2016). Evolving insight: How it is we can think about why things happen. Oxford University Press.
- Cacioppo, J. T., & Patrick, W. (2008). Loneliness: Human nature and the need for social connection. WW Norton & Company.
- Carter, S. (2014). Oxytocin pathways and the evolution of human behavior. Annual Review of Psychology, 65(1), 17–39. https://doi.org/10.1146/ annurev-psych-010213-115110
- Carter, S., Bartal, I., & Porges, E. C. (2017). The roots of compassion: An evolutionary and neurobiological perspective. In E. M. Seppälä, E. Simon-Thomas, S. L. Brown, M. C. Worline, D. Cameron, & J. R. Doty (Eds.), *The Oxford handbook of compassion science* (pp. 178–188). Oxford University Press.
- Cassidy, J., & Shaver, P. R. (2016). Handbook of attachment: Theory, research and clinical applications. Guilford Publications.
- Corradini, A., & Antonietti, A. (2013). Mirror neurons and their function in cognitively understood empathy. *Consciousness and Cognition*, 22(3), 1152–1161. https://doi.org/10.1016/j.concog.2013.03.003
- Cowan, C. S. M., Callaghan, B. L., Kan, J. M., & Richardson, R. (2016). The lasting impact of earlylife adversity on individuals and their descendants: Potential mechanisms and hope for intervention. *Genes, Brain and Behavior, 15*(1), 155–168. https:// doi.org/10.1111/gbb.12263
- De Waal, F. B., & Preston, S. D. (2017). Mammalian empathy: Behavioural manifestations and neural basis. *Nature Reviews Neuroscience*, 18(8), 498–509. https://doi.org/10.1038/nrn.2017.72
- Di Bello, M., Carnevali, L., Petrocchi, N., Thayer, J. F., Gilbert, P., & Ottaviani, C. (2020). The compassionate vagus: A meta-analysis on the connection between compassion and heart rate variability. *Neuroscience & Biobehavioral Reviews*, 116, 21–30. https://doi. org/10.1016/j.neubiorev.2020.06.016
- Di Bello, M., Ottaviani, C., & Petrocchi, N. (2021). Compassion is not a benzo: Distinctive associations of heart rate variability with its empathic and action components. *Frontiers in Neuroscience*, 15, 617443. https://doi.org/10.3389/fnins.2021.617443
- Eisenberg, N. (2003). Prosocial behavior, empathy, and sympathy. In M. H. Bornstein, L. Davidson, C. L. M. Keyes, & K. A. Moore (Eds.), *Well-being: Positive development across the life course* (pp. 253–265). Lawrence Erlbaum Associates.
- Eisenberg, N., VanSchyndel, S. K., & Hofer, C. (2015). The association of maternal socialization in childhood

and adolescence with adult offsprings' sympathy/caring. *Developmental Psychology*, *51*(1), 7–16. https:// doi.org/10.1037/a0038137

- Feldman, R. (2012). Parent–infant synchrony: A biobehavioral model of mutual influences in the formation of affiliative bonds. *Monographs of the Society for Research in Child Development*, 77(2), 42–51. https:// doi.org/10.1111/j.1540-5834.2011.00660.x
- Fonagy, P., Gergely, G., Jurist, E. L., & Target, M. (2018). *Affect regulation, mentalization, and the development of the self.* Routledge.
- Gilbert, P. (1989/2016). *Human nature and suffering*. Routledge.
- Gilbert, P. (2000). Social mentalities: Internal "social" conflict and the role of inner warmth and compassion in cognitive therapy. In *Genes on the couch: Explorations in evolutionary psychotherapy* (pp. 118– 150). Brunner-Routledge.
- Gilbert, P. (2005). Social mentalities: A biopsychosocial and evolutionary approach to social relationships. In M. W. Baldwin (Ed.), *Interpersonal cognition* (pp. 299–333). Guilford Press.
- Gilbert, P. (2009). The compassionate mind: A new approach to life's challenges. Little Brown.
- Gilbert, P. (2017). Compassion: Concepts, research and applications. Routledge.
- Gilbert, P. (2018). Living like crazy. Annwyn House.
- Gilbert, P. (2019). Psychotherapy for the 21<sup>st</sup> century: An integrative, evolutionary, contextual, biopsychosocial approach. *Psychology and Psychotherapy: Theory, Research and Practice*, 92(2), 164–189. https://doi.org/10.1111/papt.12226
- Gilbert, P. (2020). Compassion: From its evolution to a psychotherapy. Frontiers in Psychology, 11, 586161. https://doi.org/10.3389/fpsyg.2020.586161
- Gilbert, P. (2022a). Formulation and fears, blocks and resistances. In P. Gilbert & G. Simos (Eds.), *Compassion focused therapy: Clinical practice and applications*. Routledge.
- Gilbert, P. (2022b). Compassion focused therapy as an evolution informed, biopsychosocial science of the mind: History and challenge. In P. Gilbert & G. Simos (Eds.), Compassion focused therapy: Clinical practice and applications. Routledge.
- Gilbert, P. (2022c). Internal shame and self-disconnection: From hostile self-criticism to compassionate selfcorrection and guidance. In P. Gilbert & G. Simos (Eds.), *Compassion focused therapy: Clinical practice* and applications. Routledge.
- Gilbert, P., & Basran, J. (2018). Imagining one's compassionate self and coping with life difficulties. *EC Psychology and Psychiatry*, 7(12), 971–978.
- Gilbert, P., & Choden. (2013). *Mindful compassion*. Little Brown.
- Gilbert, P., & Simos, G. (2022). Compassion focused therapy: Clinical practice and applications. Routledge.
- Gilbert, P., Catarino, F., Duarte, C., Matos, M., Kolts, R., Stubbs, J., et al. (2017). The development of compassionate engagement and action scales for self and others. *Journal of Compassionate Health Care*, 4(1), 1–24. https://doi.org/10.1186/s40639-017-0033-3

- Gleason, T. R. (2013). Imaginary relationships. In M. Taylor (Ed.), *The Oxford handbook of the development of imagination* (pp. 251–271). Oxford University Press.
- Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351. https:// doi.org/10.1037/a0018807
- Hermanto, N., Zuroff, D. C., Kopala-Sibley, D. C., Kelly, A. C., Matos, M., Gilbert, P., & Koestner, R. (2016). Ability to receive compassion from others buffers the depressogenic effect of self-criticism: A cross-cultural multi-study analysis. *Personality and Individual Differences*, 98, 324–332. https://doi.org/10.1016/j. paid.2016.04.055
- His Holiness the Dalai Lama, & Jinpa, T. (1995). *The power of compassion*. HarperCollins.
- Kessler, S. E. (2020). Why care: Complex evolutionary history of human healthcare networks. *Frontiers* in Psychology, 11, 199. https://doi.org/10.3389/ fpsyg.2020.00199
- Khalsa, S. S., Adolphs, R., Cameron, O. G., Critchley, H. D., Davenport, P. W., Feinstein, J. S., et al. (2018). Interoception and mental health: A roadmap. *Biological Psychiatry: Cognitive Neuroscience* and Neuroimaging, 3(6), 501–513. https://doi. org/10.1016/j.bpsc.2017.12.004
- Kim, S. (2015). The mind in the making: Developmental and neurobiological origins of mentalizing. *Personality Disorders: Theory, Research, and Treatment, 6*(4), 356. https://doi.org/10.1037/per0000102
- Kim, J. J., Cunnington, R., & Kirby, J. N. (2020a). The neurophysiological basis of compassion: An fMRI meta-analysis of compassion and its related neural processes. *Neuroscience & Biobehavioral Reviews*, 108, 112–123. https://doi.org/10.1016/j. neubiorev.2019.10.023
- Kim, J. J., Parker, S. L., Doty, J. R., Cunnington, R., Gilbert, P., & Kirby, J. N. (2020b). Neurophysiological and behavioural markers of compassion. *Scientific Reports*, 10(1), 6789. https://doi.org/10.1038/ s41598-020-63846-3
- Leary, M. R. (2004). *The curse of the self: Self-awareness, egotism, and the quality of human life.* Oxford University Press.
- Leary, M. R., & Buttermore, N. R. (2003). The evolution of the human self: Tracing the natural history of self-awareness. *Journal for the Theory* of Social Behaviour, 33(4), 365–404. https://doi. org/10.1046/j.1468-5914.2003.00223.x
- Lippard, E. T. C., & Nemeroff, C. B. (2020). The devastating clinical consequences of child abuse and neglect: Increased disease vulnerability and poor treatment response in mood disorders. *The American Journal* of Psychiatry, 177(1), 20–36. https://doi.org/10.1176/ appi.ajp.2019.19010020
- Longe, O., Maratos, F. A., Gilbert, P., Evans, G., Volker, F., Rockliff, H., et al. (2010). Having a word with yourself: Neural correlates of self-criticism and selfreassurance. *NeuroImage*, 49(2), 1849–1856. https:// doi.org/10.1016/j.neuroimage.2009.09.019

- Lunkenheimer, E., Tiberio, S. S., Skoranski, A. M., Buss, K. A., & Cole, P. M. (2018). Parent-child coregulation of parasympathetic processes varies by social context and risk for psychopathology. *Psychophysiology*, 55(2), e12985. https://doi.org/10.1111/psyp.12985
- Luyten, P., Campbell, C., Allison, E., & Fonagy, P. (2020). The mentalizing approach to psychopathology: State of the art and future directions. *Annual Review of Clinical Psychology*, 16(1), 297–325. https://doi. org/10.1146/annurev-clinpsy-071919-015355
- Mascaro, J. S., Florian, M. P., Ash, M. J., Palmer, P. K., Frazier, T., Condon, P., et al. (2020). Ways of knowing compassion: How do we come to know, understand, and measure compassion when we see it? *Frontiers* in *Psychology*, 11, 547241. https://doi.org/10.3389/ fpsyg.2020.547241
- Mayseless, O. (2016). *The caring motivation: An integrated theory*. Oxford University Press.
- McFarland, D. H., Fortin, A. J., & Polka, L. (2020). Physiological measures of mother–infant interactional synchrony. *Developmental Psychobiology*, 62(1), 50–61. https://doi.org/10.1002/dev.21913
- Meevissen, Y. M. C., Peters, M. L., & Alberts, H. J. E. M. (2011). Become more optimistic by imagining a best possible self: Effects of a two week intervention. *Journal of Behavior Therapy and Experimental Psychiatry*, 42(3), 371–378. https://doi.org/10.1016/j. jbtep.2011.02.012
- Mikulincer, M., & Shaver, P. R. (2014). Mechanisms of social connection: From brain to group. *American Psychological Association*. https://doi. org/10.1037/14250-000
- Mikulincer, M., & Shaver, P. R. (2017). An attachment perspective on compassion and altruism. In P. Gilbert (Ed.), *Compassion: Concepts, research and applications* (pp. 187–202) Routledge/Taylor & Francis Group.
- Music, G. (2016). Nurturing natures: Attachment and children's emotional, sociocultural and brain development. Routledge.
- Neff, K. (2011). Self compassion: The proven power of being kind to yourself. Hachette.
- Osimo, S. A., Pizarro, R., Spanlang, B., & Slater, M. (2015). Conversations between self and self as Sigmund Freud—A virtual body ownership paradigm for self counselling. *Scientific Reports*, 5(1), 1–14. https://doi.org/10.1038/srep13899
- Pandey, R., Tiwari, G. K., Parihar, P., & Rai, P. K. (2021). Positive, not negative, self-compassion mediates the relationship between self-esteem and Well-being. *Psychology and Psychotherapy: Theory, Research and Practice*, 94(1), 1–15. https://doi.org/10.1111/ papt.12259
- Peters, M. L., Flink, I. K., Boersma, K., & Linton, S. J. (2010). Manipulating optimism: Can imagining a best possible self be used to increase positive future expectancies? *The Journal of Positive Psychology*, 5(3), 204– 211. https://doi.org/10.1080/17439761003790963

- Petrocchi, N., & Cheli, S. (2019). The social brain and heart rate variability: Implications for psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*, 92(2), 208–223. https://doi.org/10.1111/ papt.12224
- Petrocchi, N., Dentale, F., & Gilbert, P. (2019). Selfreassurance, not self-esteem, serves as a buffer between self-criticism and depressive symptoms. *Psychology and Psychotherapy: Theory, Research and Practice*, 92(3), 394–406. https://doi.org/10.1111/ papt.12186
- Porges, S. W. (2007). The polyvagal perspective. *Biological Psychology*, 74(2), 116–143. https://doi. org/10.1016/j.biopsycho.2006.06.009
- Porges, S. W. (2017). Vagal pathways: Portals to compassion. In E. M. Seppälä, E. Simon-Thomas, S. L. Brown, M. C. Worline, D. Cameron, & J. R. Doty (Eds.), *The Oxford handbook of compassion science* (pp. 189–204). Oxford University Press.
- Porges, S. W. (2021). Polyvagal theory: A biobehavioral journey to sociality. *Comprehensive Psychoneuroendocrinology*, 7, 100069. https://doi. org/10.1016/j.cpnec.2021.100069
- Porges, S. W., & Dana, D. (2018). Clinical applications of the polyvagal theory: The emergence of polyvagalinformed therapies.. WW Norton & Company.
- Ryan, C. (2019). *Civilized to death: The price of progress.* Simon and Schuster.
- Singer, T., & Engert, V. (2019). It matters what you practice: Differential training effects on subjective experience, behavior, brain and body in the ReSource project. *Current Opinion in Psychology*, 28, 151–158. https://doi.org/10.1016/j.copsyc.2018.12.005
- Slavich, G. M. (2020). Social safety theory: A biologically based evolutionary perspective on life stress, health, and behavior. *Annual Review of Clinical Psychology*, 16(1), 265–295. https://doi.org/10.1146/ annurev-clinpsy-032816-045159
- Stopa, L., Brown, M. A., & Hirsch, C. R. (2012). The effects of repeated imagery practice on self-concept, anxiety and performance in socially anxious participants. *Journal of Experimental Psychopathology*, 3(2), 223–242. https://doi.org/10.5127/jep.021511
- Strauss, C., Lever Taylor, B., Gu, J., Kuyken, W., Baer, R., Jones, F., et al. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical Psychology Review*, 47, 15–27. https:// doi.org/10.1016/j.cpr.2016.05.004
- Taylor, M., Shawber, A. B., & Mannering, A. M. (2009). Children's imaginary companions: What is it like to have an invisible friend? In K. D. Markman, W. M. P. Klein, & J. A. Suhr (Eds.), *Handbook of imagination and mental simulation* (pp. 211–224). Psychology Press.
- Werner, A. M., Tibubos, A. N., Rohrmann, S., & Reiss, N. (2019). The clinical trait self-criticism and its relation to psychopathology: A systematic review – Update. *Journal of Affective Disorders*, 246, 530–547. https:// doi.org/10.1016/j.jad.2018.12.069