REVIEW ARTICLE



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Threat, safety, safeness and social safeness 30 years on: Fundamental dimensions and distinctions for mental health and well-being

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Abstract

In 1993, the British Journal of Clinical Psychology published my paper titled 'Defence and safety: Their function in social behaviour and psychopathology'. The paper highlights that to understand people's sensitivity to threat, we also need to understand their ability to identify what is safe. This paper offers an update on these concepts, highlighting distinctions that were implicit but not clearly defined at the time. Hence, the paper seeks to clarify distinctions between: (i) threat detection and response, (ii) safety and safety seeking, (iii) safeness and (iv) their social and non-social functions and forms. Threat detection and response are to prevent or minimize harm (e.g., run from a predator or fire). Safety checking relates to monitoring for the absence and avoidance of threat, while safety seeking links to the destination of the defensive behaviour (e.g., running home). Safety seeking also relates to maintaining vigilance to the appearance of potential harms and doing things believed to avoid harm. Threat-defending and safety checking and seeking are regulated primarily through evolved threat processing systems that monitor the nature, presence, controllability and/or absence of threat (e.g., amygdala and sympathetic nervous system). Safeness uses different monitoring systems via different psychophysiological systems (e.g., prefrontal cortex, parasympathetic system) for the *presence* of internal and external resources that support threat-coping, risk-taking, resource exploration. Creating brain states that recruit safeness processing can impact how standard evidence-based therapies (e.g., exposure, distress tolerance and reappraisal) are experienced and produce long-term change.

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KEYWORDS

attachment, compassion focused therapy, evolution, psychopathology, psychotherapy, safeness, safety, threat

INTRODUCTION

In 1991, Professor Chris Brewin, the then-editor of this journal, invited a paper exploring threat and safety from an evolutionary point of view, their links with attachment theory and implications for psychotherapy. While the concept and definition of threat was and is reasonably uncontroversial, currently many therapists tend to use the terms 'safety' and 'safeness' interchangeably (Carter et al., 2020; Geller & Porges, 2014; Porges, 2022; Slavich, 2020; Van der Kolk, 2014). Many dictionaries do not make clear distinctions between them either. For example, the Cambridge University Press dictionary defines safe and safeness as 'not in danger or likely to be harmed'. The problem is that this could fit a definition of safety, too. This paper indicates how threat, safety and safeness are different processes and why clarifying their distinction matters. Although the distinctions between threat, safety and safeness, and their social and non-social forms and functions were implicit in 1993 and earlier writings (Gilbert, 1989, 1992), they were not clearly demarcated. What has become apparent over the last 30 years is the need to carefully distinguish between them because they operate through different psychophysiological systems with different functions on mental well-being, within psychotherapy, relationships, groups and between groups. As indicated by social mentality theory (Gilbert, 1989, 2020), there is now increasing evidence that social stimuli and information (e.g., on threat, safety, safeness and specialized social roles) are processed through different systems compared to non-social stimuli (Lockwood et al., 2020).

Stated briefly, threat and safety processing operate through the threat system of the amygdala, the hypothalamic-pituitary-adrenal axis (HPA), production of cortisol, and the sympathetic-adrenalmedullary system, with impacts on the immune system and gut (Hartley & Phelps, 2012; LeDoux, 2022; Meyer et al., 2019; Woody & Szechtman, 2011). There is also a range of neurohormones and neurotransmitters involved in these systems such as gamma-aminobutyric acid (GABA), dopamine, noradrenaline and serotonin. These are often the targets of anti-anxiety drugs and antidepressants (Keltner et al., 2018). In contrast, social safeness is linked to the evolution of attachment and care of the young (Ainsworth, 1969; Beckes et al., 2015; Bowlby, 1969; Cassidy & Shaver, 2016) affiliation and friendships (Camilleri et al., 2023; Cozolino, 2014; Dunbar, 2022), and social support in general (Ditzen & Heinrichs, 2014; Hostinar & Gunnar, 2015) and operates through a suite of psychophysiological processes that involve the vagus nerve (Geller & Porges, 2014; Petrocchi & Cheli, 2019; Porges, 2022; Slavich, 2020; Stellar & Keltner, 2017; Thayer et al., 2012) oxytocin and vasopressin (Carter et al., 2020; Slavich, 2020) and specialized neurocircuits that overlap with compassion (Novak et al., 2022; Vrtička et al., 2017). Thayer et al. (2012) explored the relationship between vagal influenced heart rate variability on the amygdala. Their data supports the basic suggestions of attachment theory and the 1993 paper that threat sensitivity is the default mode but signals that stimulate the vagus nerve (e.g., helpful others) can turn off this default mode and switch the brain into more flexible, explorative behaviours and functions. Liu et al. (2016) found that direct stimulation of the vagus nerve modulated the amygdala functioning in depression. Petrocchi et al. (2017) found that a single episode of transcranial direct current stimulation had a significant impact on heart rate variability and soothing positive affect.

Although there have been measures of social support, Gilbert et al. (2009), developed a specific measure for people's felt sense of being socially safe, connected and cared about with items such as: I feel soothed by those around me, I have a sense of belonging; I feel cared for.... Factor analysis revealed one factor and that social safeness was significantly linked to positive social comparison, and negatively with shame and submissive behaviour. Kelly et al. (2012) used a 7-day diary study exploring social safeness in relationship to positive affect, negative affect and social support. Receiving higher social support over the week was associated with higher levels of social safeness. Social safeness was more strongly related to numerous indicators of vulnerability and psychopathology over and above above negative affect, positive affect and perceived social support. Miguel et al. (2022) explored social safeness in 731 adolescents and confirmed a one factor structure with a cronbach alpha of >.93 with community adolescents scoring significantly higher on social safeness than adolescents in residential care. In a major review of the data on social safeness, Armstrong III et al. (2021) found good evidence for seeing social safeness as an affect regulation system in its own right. Today then, as explored below, there is growing evidence that supportive, social safeness, rooted in prosocial relationships has a particular psychophysiological signature with fundamental impacts on the threat system (Ditzen & Heinrichs, 2014; Hostinar & Gunnar, 2015) and mental and physical health (Brown & Brown, 2015; Carter et al., 2020; Geller & Porges, 2014; Petrocchi & Cheli, 2019; Vrtička et al., 2017; Slavich, 2020).

DISTINGUISHING SAFETY FROM SAFENESS: A LOOK BACK

The 1993 paper began with building on the distinctions between threat and safety that were common in behavioural approaches (Gray, 1987; Marks, 1987; Salkovskis, 1991). Gilbert (1989, 1992, 1993) utilized Gray's (1987) model of threat processing versus reward processing as a first step to distinguishing safety processing from threat processing. As depicted in Figure 1, Gray argued that signals of punishment, non-reward and novel stimuli stimulated a threat system called a 'behavioural inhibition system'. The responses of this system were as follows: increased arousal, focused attention on threat and behavioural inhibition, particularly of explorative and reward-focused behaviour.

There are three basic evolved strategies for threat defences: (1) invigorated activity and movement as in fight or flight; (2) short-term demobilization as in freeze, faint or hide, play dead; (3) long(er)-term demobilization and shutdown. The latter arise when individuals are in threatening environments they cannot escape from (are trapped), with limited control, as in helplessness, powerlessness, defeat and despair states (Beck et al., 1985; Bowlby, 1980; Gilbert, 1984, 1992, 2020, 2021; Gilbert & Allan, 1998; Maier & Seligman, 2016). These brain states play important roles in depression and anxiety (Gilbert & Allan, 1998; Griffiths et al., 2014; Taylor et al., 2011), suicide (Höller et al, 2021; Rasmussen et al., 2023), psychosis (Valmaggia et al, 2015) and post-traumatic stress disorder (Troop & Hiskey, 2013). While the psychophysiological mediators of the threat system are now fairly well understood (LeDoux, 2022), the nature and function of each of these types of threats and their defences will relate to complex variations within threat system processing. For example, short-term threats can increase dopamine, whereas longterm threats, as in helplessness, produce depletions in dopamine (Maier & Seligman, 2016). These are crucial insights for tailoring psychotherapy.

Importantly for humans, threats are not just external, but also link to our internal worlds of thoughts, fantasies, emotional shifts, traumatic flashbacks and self-evaluations and devaluations (Beck et al., 1985; Leahy, 2019; Leary, 2007). Humans can keep themselves in perpetual states of chronic stress and threat arousal via rumination threat anticipation and safety checking, thus risking stimulating shutdown states

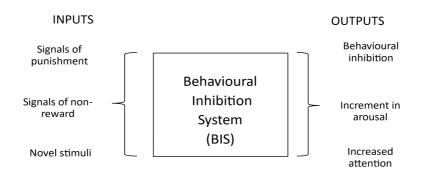


FIGURE 1 The behavioural inhibition system (Gray, 1985).

(Beck et al., 1985; Bowlby, 1980; Gilbert, 1992; Maier & Seligman, 2016). Psychodynamic therapists have indicated a range of defence mechanisms to deal with internal threats including dissociation, denial, repression and projection (Abbass, 2015; Ellenberger, 1970). Hence, threat safety seeking and safeness apply not just to our relationships in the external world but also to our own minds. To put this another way, safety checking and seeking can be linked to internal defences like denial and dissociation, whereas safeness is linked to openness, acceptance and even exploration of some of the darker or shadow aspects of one's mind.

Ways of seeking safety matter

Defensive and protective strategies that motivate the monitoring and probing of the environment for potential danger, and involve 'checking out', have commonly been referred to as safety behaviours or safety-seeking behaviours (Salkovskis, 1991; Salkovskis et al., 1999; Woody & Szechtman, 2013). These forms of safety checking, monitoring and seeking behaviours have long been linked to many forms of mental health difficulties, such as anxiety disorders (Salkovskis et al., 1999), perfectionism and the fear of error (Dunkley et al., 2003), self-criticism and depression (Dunkley et al., 2020; Gilbert et al., 2006), psychosis (Tully et al., 2017) and obsessional compulsive disorders (Woody & Szechtman, 2011, 2013). Sitting down to avoid a heart attack, or repeatedly touching something to avert harm, overly selfmonitoring to avoid saying or doing something that could result in rejection, are examples of harmful forms of safety seeking. People engage in harsh self-criticism as a safety behaviour because they believe it will keep them from making mistakes and thereby become less vulnerable to criticism and rejection (Dunkley et al., 2003; Gilbert, Clarke, et al., 2004; Gilbert, Gilbert, Irons, 2004). Hence, in line with standard behavioural approaches, checking and analysing environments for the absence of threat, harm minimalization, including analysing one's own behaviour to ensure that it does not trigger unwanted threat, are forms of safety behaviour. This paper suggests that these forms of safety behaviours or feeling 'being out of harm's way' may bring a sense of relief but this is not the same as feeling socially safe. For clients who are traumatized, clinicians may need to work with their specific ways of trying to create safety which at times can be difficult for clinicians to accept (Veale et al., 2023). However, working with an individual's safety behaviours and harm prevention beliefs can be a bridge to the client feeling understood and validated, and be the first steps towards social trust and safeness. Indeed, experiencing social signals such as friendliness, and compassionate concern can over time stimulate the vagus nerve and facilitate a sense of social trust and safeness that supports tolerance and exposure-based therapies (Geller & Porges, 2014; Gilbert, 2022b).

Resource seeking

Although detecting and dealing with threats are major life tasks for all living things, another major life task is acquiring resources essential for survival and reproduction. Hence, in contrast to the behavioural inhibition system, Gray (1987) described a motivational system for resource and reward seeking called the behavioural activation system. This system detects and responds to signals of reward, invigorates behaviour to acquire the reward/resource and makes novel stimuli interesting. Gray thought this system was related to impulsivity. Blocks to the path of needed resources (frustration) can stimulate the threat system. Behaviour therapists have seen depression as arising from downregulation of the behavioural activation system, hence making it a target for therapy (Dimidjian et al., 2011). Utilising social rank theory, Gilbert (1992, 2001) suggested that down-regulation of behavioural activation was to inhibit explorative and resource seeking behaviour in contexts where dominant individuals would punish this behaviour. There is good evidence for this model of depression (Taylor et al., 2011; Wetherall et al., 2019). Hence, because helpless and defeat states are inhibitors of the resource-seeking system, then they also needed to be addressed in addition to trying to stimulate positive, rewardable behaviour. In doing that,

therapists may need to address processes such as inhibited and arrested rage, which inhibits assertive behaviour which may have been necessary in the context of a dominant, hostile other (Abbass, 2015; Clarke et al., 2016; Gilbert, 2001; Gilbert, Clarke, et al., 2004; Gilbert, Gilbert, Irons, 2004). Brosschot and Thayer (1998) found that anger inhibition had a detrimental impact on vagal tone which increased risk of cardiovascular disease. Some people are also fearful of experiencing positive emotions (Gilbert et al., 2013, 2014) including compassion (Gilbert, 2022b; Gilbert et al., 2011; Kirby et al., 2019).

Another important part of safety is learning that 'what was a threat is no longer a threat'. This is related to extinction learning. The physiology of extinction learning is complex however, as it is not simply a modification to the threat system. Rather, it involves new pathways being developed in areas such as the ventromedial frontal cortex (Harrison et al. 2017). In other words, there are specific systems that tell the organism that what was frightening can now be treated as safe. However, under threat and stress these pathways can be disinhibited leading to a return of the fear. In the 1993 version, the safety system was seen as scanning for the *absence of threat*, *plus* for the availability of helpful resources (investments) for dealing with threat and the pursuit of resources. At that time, it was sometimes written as safety/ safeness without clear distinction.

However, this confounded two very different processes: safety monitoring and seeking, with safeness, especially social safeness. Today we can distinguish safety systems that focus on the absence of threat and contrast them with systems scanning for, and responding to, the presence of supportive, trusted and helpful resources. In other words, systems monitoring for the presence and absence of threat differ from those monitoring and responding to *presence* of helpful supports and resources care and support from others and favourable social stimuli (terms used in Figure 2). Second, social threats, social safety and social safeness can operate differently from non-social threat, safety and safeness (Gilbert, 1989, 1992, 2000, 2022b; LeDoux, 2022). This is crucial because humans are among our greatest threats and sources of harm, requiring specific social defences that impact the minds of the threatened and threatening others. Submissive or appeasing safety behaviours may prevent aggressive human attack by toning down the attacker's attack motivation, but not a predator's. However, pre-humans began to evolve different (non-submissive) ways of coping with aggressive dominant despotic, resource controlling and holding individuals, typical of most primate groups. Subordinates began forming alliances and ganging up against them and then shared resources (Boehm, 2000). Overtime, status and social integration emerged from egalitarian forms of social 'caring and sharing' that became essential for survival (Boehm, 2000; Camilleri et al., 2023; Gilbert, 2021) and formed the basis for extensive cooperation (Camilleri et al., 2023; Henrich & Muthukrishna, 2021). In the past lone humans had a very low chance of survival. The caring and sharing styles of hunter-gatherer living created contexts for subsequent brain evolution supporting pro-social behaviour (Camilleri et al., 2023) and multiple forms of offering and responding to emotional and physical support (Mayseless, 2016).

Spikins (2015) highlighted how early humans cared for sick and injured individuals, enabling them to survive in ways that they would not have been able to without such care. The physiological impact of being part of a sharing and caring network also has major effects on physical and mental health (Brown & Brown, 2015; Ditzen & Heinrichs, 2014; Slavich, 2020). In regard to functions of caring

INPUTS

OUTPUTS





and sharing attachment, theorists distinguish between *secure base*, which provides protection, support and empathic encouragement, and *safe haven* which provides signals that are soothing and regulating of arousal (Bowlby, 1969, 1973; Cassidy & Shaver, 2016; Mikulincer & Shaver, 2023). Being the recipient of a secure base and safe haven means being a recipient of particular kinds of social affiliative, caring social signals that downregulate threat via psychophysiological mediators of the safeness system (e.g., vagus nerve, oxytocin). As noted in the 1993 paper:

Accessibility to helpful others also promotes a sense of safeness (Bailey, 1988; Bailey et al., 1992). Bowlby (1969, 1973, 1980) stressed the role of *the accessibility* of the parent and the calming effects of parental behaviour in enabling the infant to feel secure and be explorative and confident. Thus, one of the functions of attachment is to provide a 'safe-secure base'. Signals of safeness can also act in an automatic way, are often nonverbal, e.g., proximity to others, facial expression, smiles, signals of respect and so forth. Safe-explorative, infant–parent interaction is facilitated by affectionate, playful, reciprocating interactions where infant and parent are attuned to each other.

The *absence of safe and reassurance signals* may be enough to activate the defence system. For example, infants can become distressed and demobilised if the mother presents a 'blank face' (Kagan, 1984). Adults, too, may feel uncomfortable in the presence of strangers who do not engage in the rituals of greeting (smiles, handshakes etc.). Indeed, rituals of greeting are necessary precisely because without them, encounters can be construed as threatening (Trower & Gilbert, 1989). Loss of social support or a breakdown in affiliative, confiding relations that have long-term implications can trigger depression. (Gilbert, 1993, p. 140)

As noted, there are *specific types of social signals* (e.g., touch, facial expressions, voice tones) that we evolved to detect and need in order to develop a sense of social safeness, social trust, joy from affiliation and connectedness, and social confidence. The relative absence of these (caring) signals from others may have detrimental effects on the development of safeness processing leaving people with higher social distrust and hostility (Music, 2017, 2022). As Sapolsky (1994) observed:

Touch is one of the central experiences of an infant, whether rodent, primate, or human. We readily think of stressors as consisting of various unpleasant things that can be done to an organism. Sometimes a stressor can be the *failure* to provide something to an organism, and the absence of touch is seemingly one of the most marked of developmental stressors that we can suffer. (p. 92)

Highlighting how important these signals are for lowering threat activation, one of the major attachment research programmes focused on exploring what happens when infants are separated from access to their caregivers, usually mothers (Stayton & Ainsworth, 1973; see Cassidy & Shaver, 2016, for reviews). Separation (e.g., the mother leaving the room in a strange situation) stimulates the threat system and produces anxiety and protest, which can vary according to the attachment security of the infant. With secure attachment, the mother's return (with holding, stroking and calming verbal behaviours) is marked by the rapidity of bringing the vagal-mediated soothing and social safeness systems online. This enables threat processing to be toned down, and the child to return to play and exploration. Insecure attachments show more complex separation and reunion behaviours and difficulties (Stayton & Ainsworth, 1973; see Cassidy & Shaver, 2016, for reviews). In a different paradigm using the blank face experiments, Tronick et al. (1978; Tronick, 2003) showed how infants would engage in play and friendly exploration when in a reciprocal, affiliative exchange with the mother, but if the mother presented a blank face, then that loss of caring signals activated the threat system and created distress. These data again indicate the importance of monitoring for the presence of safeness that is, helpful resources. Not only are social safeness signals used as calming signals, but via secure base and encouragement, they also *build courage*. For example, in the social tier test, and in going for medical investigations, being accompanied by caring, friendly others, significantly lowers threat activation (Dunbar, 2022). There is considerable evidence that the support of others can be vital to how we face difficulties such as going through a difficult divorce or a cancer diagnosis (Cozolino, 2014; Kessler et al., 1985; Kumashiro & Sedikides, 2005). For one recent example, Wang et al. (2021) found that during COVID, parental support had significant impacts on their adolescent experiences of financial stress and day-to-day positive and negative affect. Crucially, this type of support not only offers help but focuses on what the child is able to do, enabling the child to feel reassured in their own abilities. Later in life, self-reassurance helps us to remember and utilize our skills to engage with difficult situations (Gilbert, Gilbert, Irons, 2004). In addition, and in line with the attachment and developmental literature at the time (1993), I noted that signals of safe and engaged interaction, the basis of social affiliation, are essential for well-being via positive affect.

Basically, ... positive affect facilitates a more open explorative orientation and more positive and prosocial behaviour such as caring and sharing. Thus, children growing up in environments that are high in the exchanges of signals promoting reassurance, safeness, security, play and positive affect are likely to develop different adaptive strategies and cognitive organisations from those who do not (Bowlby, 1980; Isen, 1990; Rohner, 1986), and probably a different organisation of internal defences. Furthermore, positive sociability (relationships marked by high investments and low threat) is associated with happiness and health (Argyle, 1987) and may affect biological processes (e.g., stress hormones and immune system functioning; Henry & Stephens, 1977; Ornstein & Swencionis, 1990). (Gilbert, 1993, p. 141)

Although the above highlighted the importance of positive affect, especially positive affect that comes from social relationships, the last 30 years have highlighted the importance of distinguishing between quite different types of positive affect (Cordaro et al., 2016; Depue & Morrone-Strupinsky, 2005; Keltner et al., 2018). A major distinction is between positive affects linked to activation and energizing, in contrast to positive affects linked to safeness and being able to slow down and to settle, especially the psychomotor system. These are grounded in the functions and psychophysiology of rest and digest. Whereas responding to threats and behavioural activation to seek out, and obtain resources and rewards, is linked to sympathetic arousal, the parasympathetic system supports rest and digest, with soothing and settling functions and with open and flexible attention. The settling effects of the parasympathetic system, particularly the vagus nerve and frontal cortex, are linked to heart rate variability and mental health (Beauchaine & Thayer, 2015; Porges, 2022) and to positive emotions of contentment, peacefulness, and especially a sense of safeness (Petrocchi & Cheli, 2019; Stellar & Keltner, 2017).

With the view that there are two very different types of positive affect, one activating and one soothing and calming, Gilbert et al. (2008) developed a brief self-report scale to measure people's frequency of experiencing them. Somewhat unexpectedly the factor analysis revealed three factors of: (1) activated positive affect, (2) relaxed positive affect and (3) safeness/contentment positive affect. Moreover, it was the safe and content emotions that had the highest correlations with mental health measures. Subsequent studies have confirmed the distinction between relaxed and calm emotions from those of contentment and safeness. Duarte and Pinto-Gouveia (2017) found that high-frequency heart rate variability (HRV) was most strongly linked to positive emotions relating to contentment and safeness, rather than relaxed or active emotions. In many studies contentment has been shown to be important for well being and is linked to a feeling of sufficiency (Cordaro et al., 2016), and here it is also linked to experiencing safenes. This has clear implications because behavioural therapies that target positive affect and achievements may benefit from also targeting the slowing, soothing grounding forms of content and safeness positive affect, which is also a key orientation of compassion-focused therapy (Gilbert, 2000, 2020; Gilbert & Simos, 2022) for which this is growing evidence (Petrocchi et al., 2023). Given that one of the key processes of compassion focused therapy is to facilitate people's ability to access and utilise the psychophysiological systems of social safeness, Kim et al. (2024) found that when controlling for respiration rate, the compassion imagery and motivation practice still significantly improved HRV in people with severe depression.

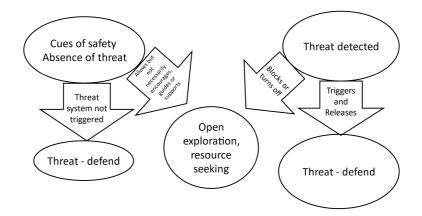
The last 30 years have also seen considerable development and research into how important social relationships are to *well-being*, influencing everything from epigenetic profiles all the way through to social behaviours and the creation of cultural and contextual contexts (for a major review, see Rieger et al., 2023). In addition, there have been major developments in the understanding of empathy and mentalizing as key to social relationships with the development of specific mentalizing therapies (Luyten et al., 2020). Empathy is not always used to be helpful, however, and can be used to be manipulative or vengeful, but when guided by caring and compassion motivation, it can have profound effects on people's sense of social safeness, feeling understood, valued and validated. Indeed, our sense of social safeness is likely to increase when we feel people empathically understand our needs, are thoughtful and 'hold us in mind'. Knowing that 'we matter', so that we are not just 'out of sight out of mind' helps us to feel connected and socially safe (Gilbert, 2022a). In view of the increasing interest in self-transcendent states, a quietening of the threat, safety seeking and resource seeking systems and facilitation of social safeness and rest and digest system, may create some of the neurophysiological patterns that enable transcendent states into deeper experiences of consciousness (Metzinger, 2024).

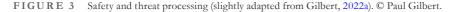
MONITORING FOR SAFETY AND SAFENESS

Given the above, different figures for distinguishing safety and safeness can be suggested.

Threat and safety processing

Figure 3 depicts the situation where a child's or adult's threat detection-monitoring system is attuned to the environment for the presence–absence of threat and is monitoring for threat. The ellipse denoting the threat defence system is smaller on the left than on the right side of the figure. The right side indicates vigilance to, and identification of threats requiring defensive action. When the threat system is active, it turns off open exploration, resource seeking and soothing rest and digest. On the lefthand side, cues of safety indicate the absence of threat but not necessarily completely. For example, a new mother may be sleeping but will become alert to the cries of her baby. Gentle cries can wake her,





whereas unrelated sounds of the same intensity do not. Hence, monitoring systems can still be attuned to monitor for certain stimuli but do not become activated until that stimulus arises (in safety mode). This is similar to the cocktail party phenomenon. The smaller depiction on the left suggests that the threat system is not turned off but is in 'tick over or checking safety mode' as in the term 'keeping an eye open.' Another example is social anxiety. The socially anxious person goes to the party but with 'damage limitation' in mind, checking that they do not say or do anything that would get them rejected. In contrast, a person who feels safe goes to the party looking forward to having a good time. The interactions between these systems can give rise to approach-avoidance conflicts; as one approaches the resource the potential for threat may increase; as one disengages, the threat switches to a threat from an inability to acquire needed resources (e.g seperation).

Elevated sensitivity to threat processing can happen in situations of attachment trauma, which can have profound long-term psychophysiological and social effects (Lippard & Nemeroff, 2020; Terpou et al., 2019; Van der Kolk, 2014). Traumas can shift the threat system to greater 'better safe than sorry' negativity biases and social distrust (Van den Bergh et al., 2021). In addition, trauma can stimulate the use of defences such as denial and dissociation (Abbass, 2015; Van der Kolk, 2014). For threat systems that have been overly sensitized, then even in the absence of threat cues (safety mode), individuals can still 'feel edgy' without being able to identify exactly why. Problems can arise when people come to conclusions about the source of, and reasons for feeling 'edgy, distrustful and anxious' that are inaccurate. Cognitive therapists link these problems to cognitive distortions such as jumping to conclusions and biased/selective attention (Beck et al., 1985) and better 'safe than sorry' thinking (Van den Bergh et al., 2021). Such biased assessments can maintain and/or accentuate their anxiety and threat sensitivity and hence their safety seeking. Over time such styles of thinking can be conditioned to the psychophysiology of threat processing (Bargh, 2017; Haidt, 2001).

Social safeness processing

The threat-regulating processes can be distinguished from those of safeness as shown in Figure 4 because they operate through social affiliative processing systems (Carter et al., 2020; Depue & Morrone-Strupinsky, 2005; Ditzen & Heinrichs, 2014; Mikulincer & Shaver, 2023; Porges, 2022; Thayer et al., 2012). As noted, attachment theorists have long highlighted the importance of caregiver sensitivity and responsivity to the infant's/child's maturational needs, including emotion regulation and reward seeking (Bowlby, 1969; Cassidy & Shaver, 2016; Cozolino, 2014; Endevelt-Shapira & Feldman, 2023; Mikulincer & Shaver, 2023). Those interactions regularly stimulate soothing responses to threat and distress, positive affect, and over time become integrated into threat regulation that builds confidence in exploration and social relating. In addition, the child begins to be able to stimulate these systems

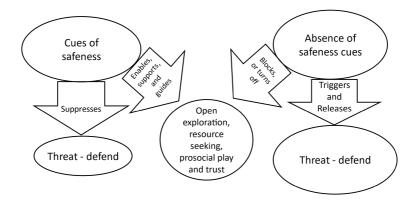


FIGURE 4 Social safeness and threat processing (from Gilbert, 2022a). © Paul Gilbert.

within themselves by developing forms of self-reassurance (remembering past successes and recruiting learnt skills) and self-compassion (self-directed benevolent friendliness) when under threat and risk taking (Gilbert, 2000, 2009, 2020, 2022a). When we are self-punitive and harshly self-critical then, like a dominant attack, we stimulate threat systems, whereas when we are self-reassuring and compassionate we stimulate affiliative, supportive, safeness brain systems (Kim, Henderson, et al., 2020; Kim, Parker, et al., 2020; Longe et al., 2010). As predicted by this approach, Shaw and Kelly (2024) found that stimulating a compassionate brain state to a life distress had a more powerful impact on distress tolerance than simply writing about the distress.

Atzil et al. (2018) articulated models indicating how specific neurocircuits facilitate infants' abilities to detect and respond to signals of caring and reassurance. These include being able to attune to, and form psychophysiological synchrony with, the caregiver (Endevelt-Shapira & Feldman, 2023) that has a major impact on the vagus nerve and sense of social safeness created in the relationship (Lunkenheimer et al., 2018). Over time, the functions of the caregiver support a range of maturational challenges that help regulate threat processing and guide the child towards resource acquisition and self-regulation. Threat systems can now be activated, with the removal of stimuli indicating the *un*availability of safeness cues.

These and other studies show that individuals *monitor for the presence of social safeness stimuli/signals* (not only the absence of threat) and as noted above the removal of safeness signals releases the threat system from its inhibition that the social safeness signals and stimuli were exerting. There are many examples from everyday life where, if those we trust and rely on become unavailable, we may experience increased anxiety. While I was in hospital for major surgery, I noticed that when certain staff who were friendly and helpful were on duty, I felt more relaxed and 'safe' than when strangers or more disengaged staff were on.

Threat activation, when safeness signals are removed, helps explain why anxiety can increase in situations even when there is a removal of threat and thus safety increases. For example, observations with military personnel suggest their secure base and safe haven become 'conditioned' to their 'buddies'. These bonds can become very important in functioning as a secure base and safe haven, particularly under the high threat of combat. Such experiences will (re)wire these systems. When these military personnel return home, although they are now out of the 'threat of the firing line', they may be unaware of how much the removal of the 'buddy-based' secure base and safe haven can increase anxiety, and why family and friends may not provide the stimuli that can calm them. This can create distressing confusion for both them and their partners, particularly if they have cravings to return to being with 'their buddies'. Alcohol problems among ex-military personnel can sometimes arise because of an increased sense of social disconnection, aloneness threat and to make sense of yearning to return to the field and their buddies. Although we have no data, my colleague Deborah Lee, who works with CFT for veterans, has found that explaining 1. The three types of emotion models (threat, resource seeking and rest-digest), 2. The functions of secure base and safe haven and 3. How high-stress experiences (e.g., war) can rewire them through no fault of their own, has been a major relief to some personnel and their partners. Again, the distinction between safety and safeness has made a lot of sense to them.

Importantly, children who have not been able to develop their social safeness and affiliative systems, to function as secure base and safe haven, can suffer from over aroused threat processing because they lack the safeness psychophysiological and social regulators (feeling safe/supported with others) that should have developed with the appropriate caring inputs. In addition, they may not develop the social reward systems that can be so vital for having an interest in developing prosocial relationships with others and experiencing joy from affiliative relating. Rather, they may become more orientated to self-reliance with a more narcissistic orientation to life (Mikulincer & Shaver, 2023). There is increasing evidence that maternal warmth and affection can play an important role in the subsequent development of prosociality versus callous-unemotional traits, while maternal hostility is linked to anti-sociality (Vaughan et al., 2021). For the latter, these children and later adults may only have a sense of safety if they are able to escape, submit to (subordinate defence, appease and please) or induce fear in others (dominant defence, bully).

Looking through this lens of thinking means that therapists are not just focusing on the regulation of safety, but also the provision of experiences of safeness, because safeness cues will help stimulate, and over time facilitate the use of the psychophysiological systems that evolved with caring and support emotion regulation. Indeed, CFT has a range of exercises and practices that are designed specifically to stimulate these systems and can be used to promote well-being, and also work to regulate threat processing (Gilbert & Simos, 2022). Based on the exploration above of the distinctions between: (1) threat processing, (2) safety processing and (3) safeness processing, Figure 5 offers another way of depicting and conceptualizing them.

The left-hand side of Figure 5 highlights how animals and humans engage *directly* and individually with a threat. Threat signals stimulate the threat system via, for example, the HPA axis, the amygdala and sympathetic arousal (LeDoux, 2022; Terpou et al., 2019). These can be through non-conscious processing and are linked to direct psychomotor programmes for actions, such as fight, flight, freeze, faint and submit, but in humans are modified and regulated through evolved complex cognitive competencies (Beck et al., 1985; LeDoux, 2022; Meyer et al., 2019; Terpou et al., 2019). Over time, individuals may learn to become anxious about neutral stimuli due to classical and operant conditioning, and beliefs. This is the domain of 'the body keeps the score' (Van der Kolk, 2014).

As depicted in the middle box of the figure, our slower, complex cognitive competencies can have profound effects on our interpretations of threat and use of various defence systems, for example, to minimize or deny or engage in catastrophizing and ruminating (Beck et al., 1985; LeDoux, 2022). Equally we can learn a range of coping behaviours, such as checking out our interpretations for accuracy and plan various actions for coping such as problem-solving, assertiveness, escape. We learn skills and thereby ways we can be self-reassuring by recruiting these skills in time of need. This raises the issue of the degree to which we feel we can 'trust and rely on ourselves.' In terms of psychotherapy, therapists may be able to help people through: (1) Exposure and desensitization, (2) Learning about and reappraising threats and (3) Learning and practising coping abilities (e.g., assertiveness, compassion). The key focus, however, is that it is very much helping the *individual* to help themselves in relationship to the threat.

The third column of Figure 5 highlights a different way of regulating and coping with threat. This is the safeness-threat regulation system that evolved out of attachment (Bowlby, 1969) and group forms of caring relationships (Camilleri et al., 2023; Dunbar, 2022). Here, the individual does not just rely on their own competencies for dealing with the threat but will call on, turn to or seek out helpful others, thus activating their secure base and safe haven relationships operating through the psychophysiology and neurocircuitry for helping and being helped (Brown & Brown, 2015; Gilbert, 1989, 1993; Hostinar & Gunnar, 2015; Kim, Henderson, et al., 2020; Kim, Parker, et al., 2020; Petrocchi & Cheli, 2019;

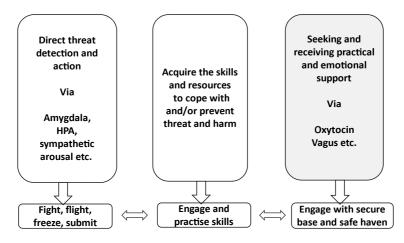


FIGURE 5 Depiction of different systems for threat processing and coping. © Paul Gilbert.

Porges, 2022; Slavich, 2020; Stellar & Keltner, 2017; Vrtička et al., 2017). The key question here is that when we are under stress, do we feel comfortable talking with others and seeking their support without fearing being shamed or rejected or being a burden, or needing to be overly self-reliant; can we engage in sharing and caring to support our mental states?

Another therapeutic question is: in helping themselves, are people able to recruit the 'social safeness' psychophysiological systems that evolved for threat regulation? For example, people might generate various alternative thoughts to stressful ones, but the *emotional tone* in which they hear coping thoughts could for example, be neutral, hostile, anxious or intellectual. Compassion-focused therapy suggests that by deliberately creating affiliative, care-compassion motivation, with supportive friendly emotional tones to the reappraisals or exposure (thus stimulating prefrontal and vagal systems) will impact the individual differently and more effectively (Gilbert, 2000, 2020). Gilbert and Basran (2018) found that thinking through a small life problem when purposely generating a compassionate brain state had a significant impact on people's abilities to think through the problem and generate novel solutions compared to trying to think through the problem in a more neutral way. Shaw and Kelly (2024) found that supportive letter writing was more effective when participants had done a compassion induction first. Hence, the sensory qualities of the signal/coping thought (friendly vs. neutral) can have powerful impacts.

FEARS OF SOCIAL SAFENESS AND COMPASSION

One of the crucial findings of the last 30 years has been that some individuals are frightened and resistant to signals of social safeness, caring and engaging with compassion (Gilbert et al., 2011, 2013, 2014; Gilbert & Mascaro, 2017). Some people physiologically respond to signals of care as a threat signal (Rockliff et al., 2011). In a neurophysiological study of the effects of self-reassurance and self-criticism, Longe et al. (2010) found that people high in hostile self-criticism experienced activation of the amygdala and other threat systems when trying to be self-reassuring and helpful (see also Kim, Henderson, et al., 2020; Kim, Parker, et al., 2020). Sousa et al. (2022) explored community males in comparison to young male offenders (ages 14-18). They found that stimulating the soothing system increased heart rate variability in the community group, but for offender males, it reduced it, again indicating that these stimuli can trigger the threat system. To explore these, Gilbert et al. (2011) developed measures of fears, blocks and resistances to: (1) being open to and receiving compassion from others; (2) being selfcompassionate and (3) being compassionate to others. These scales have now been used in many studies (e.g., Merritt & Purdon, 2020; Naismith et al., 2019). Kirby et al. (2019) conducted a meta-analysis of 4723 participants. Fears of being self-compassionate and fears of being open to compassion from others are strongly linked to high rates of self-criticism (Cavalcanti et al., 2023; Joeng & Turner, 2015), shame (Matos et al., 2017) and depression (Gilbert et al., 2014; Melsom et al., 2023). Fears of compassion to others are linked to hyper-competitiveness, ruthless self-ambition and narcissistic difficulties (Basran et al., 2019). Importantly then, therapies targeting social safeness, social trust and compassion need to work with fear and threat to these processes in order for individuals to have access to the biopsychosocial regulating support they provide. Fears and resistances to compassion should not be taken as a block to the therapy, but as the focus of the therapy, because individuals who cannot use compassion processes are also cut off from important psychophysiological systems of affect regulation. There are now guidelines for how to identify and work with fears of compassion (Steindl et al., 2023).

GROUP SAFETY VERSUS SAFENESS

The creation of social safeness and trust can also operate within societies. For example, the underfunding of health care leading to struggling services in the United Kingdom has left people feeling they cannot trust their health services to be there for them when they need them, creating a greater fear of illness, injury and getting old (Maynard, 2017). The importance and psychophysiological processes of the social

13

safeness system also indicate why loneliness (loss of connectedness to helpful others) has profound psychophysiological effects and impacts health and longevity (Cacioppo et al., 2014; Slavich, 2020). Abel and Clarke (2020) outline various ways by which communities can be supported to come together and help each other, with evidence that such endeavours have major impacts on community health and the use of health services. Hence, communities that create social safeness are healthier than those that do not. Again, there is a difference between attending to safety (e.g., more police, better street lighting) and creating conditions for creating social safeness – the ability to rely on others to be helpful in one's community.

On reading the 1993 paper, primatologist and colleague, the late Michael Chance also suggested a need to clarify the distinctions between how threats are managed, and how safety is different to safeness within groups. He identified three different types of social organization within primates that he called: the agonistic, agonic and hedonic modes (Chance, 1988). In the agonistic mode, individuals are in conflict and are fighting-submitting with unstable hierarchies. Taylor and Hocken (2021) highlight that in prison environments, one's sense of safety may depend on one's ability to show an aggressive retaliation response. Some individuals only feel safe if they know they can induce fear in others. In the agonic mode, fighting is reduced, conflict and dissent suppressed but 'peace and safety' and group coherence is maintained through down-rank threat and punishment. There are many examples of human relationships in this mode including within families, organizations, nation-states and religions. Here, individuals are kept in check and 'obedient' through threats from those in power. This tactic is used by dominance-seeking primates who threaten subordinates as a test of them being in a non-challenging fear state (Gilbert & McGuire, 1998). Within nation-states dominant elites can use repression and torture, especially of political competitors, on a vast scale (tyrants). Threat of various hells and eternal torture is common to many religions. Agonistic and agonic groups are regulated through threat defence and subordinate's submissive, appeasing and safety seeking behaviours.

The hedonic mode is a very different form of biopsychosocial organization within and between individuals. It is what we can call a mode of group social safeness. The group is relaxed and playful, leaders are affiliative, and peace is maintained through affiliative bonds and interactions, cooperation of various kinds and sharing and caring (Gilbert, 2021). These kinds of group dynamics have been noted in hunter-gatherer groups, their evolution being very important for our social brain (Boehm, 2000; Camilleri et al., 2023; Henrich & Muthukrishna, 2021). Interestingly, Sapolsky and Share (2004) observed a group of baboons organized around typical hierarchical aggressive interactions which dramatically changed when the dominant males were poisoned, leaving mostly subordinates and females. The group settled into a much more relaxed, hedonic, peaceful way of living that even new males entering the group adopted. In addition, compared to common chimpanzees, bonobos are female organized, more affiliative, calmer and use sex for bonding and conflict control. They have lowered stress levels and engage in fewer aggressive conflicts (Clay & De Waal, 2015). Hedonic modes are rooted in care and share strategies that were and are crucial to the success of hunter-gatherers (Boehm, 2000; Camilleri et al., 2023; Dunbar, 2022; Gilbert, 2021). Groups can move in and out of these modes, to a greater or lesser extent. Hence, a crucial challenge for humanity is understanding these transitions and developing political competencies to try to foster and maintain the conditions and contexts that enable hedonic modes and social safeness that also seek fair resource distribution and social justice.

The nature of different modes of social relating is also noted between groups. Groups that are very supportive internally are not necessarily peaceful externally. Oxytocin, which can support ingroup bonding, can also support external aggression (De Dreu et al., 2011). One of the crucial bridges between these modes is the degree of social trust and the safeness that can be created along the dividing lines when in conflict. For example, in international relations and the pursuit of peace, Goertz et al. (2016) point out that peace maintained by safety behaviours of threat–retaliation potential (agonic relating) is often fragile, and long-term, harmful to intergroup relations. In contrast, peace that is sought and maintained through respect for international law, cooperativeness, fair trading, friendly and supportive integrated relationships (hedonic relating) are much more certain of lasting and enabling the flourishing of those within different groups. The transformation of international relations in Europe following the Second World War with the Marshall plan is a good example of what can be achieved. Unfortunately, Goertz et al. (2016) note that many nation-states have had other ideas, maintaining tribal conflict with beliefs that aggression and the threat of aggression solve conflict and offer rewards and resources, thus creating immense suffering. Political self-interest and the enormous monies to be made from the arms industry have also been seen to play a role (Rogers, 2023). These are all factors that worldwide, and into the future, play huge roles in people's physical and mental health.

CONCLUSION

This paper was written as an update of ideas presented 30 years ago which emerged out of the fields of evolutionary psychology and attachment theory (Gilbert, 1984, 1989, 1993). Since that time, our understanding of the psychophysiological systems of threat processing, safety seeking and experiences of safeness has advanced considerably. Hence, today we can make distinctions between threat processing, safety seeking and safeness and distinguish their social and non-social forms. These processes evolved from different evolutionary challenges, have different evolutionary functions, different psychophysiological regulators and are textured in different ways by early life experiences and social contexts. Social safeness emerges from caring motivation. When this motivation is activated, it creates brain states that can recruit the psychophysiology of social safeness such as vagal tone, oxytocin and various neurocircuits that can have profound effects on how people engage with life challenges, are prosocial and how therapeutic interventions are experienced (Gilbert & Simos, 2022). While our abilities to deal directly with threats and create safety and social safeness are all important, clarity on their distinctions points to new directions for research and creating more compassionate ways of relating to oneself and others and society in general.

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There is no conflict of interest.

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