Coping skills and survival strategies in relation to trauma and traumatic stress

By Steen Jørgensen and Merete Holm Brantbjerg, Moaiku, 2011

Most theorists and professional practitioners within the field of trauma and traumatic stress have described human response to traumatic events in a model derived from interaction between predator and prey. In its simplest form this model describes the reactions of fight and flight. In addition, it many include a state of tonic immobility, and some authors will also include states of orientation and arrest amongst the core elements.

Through many years of working with trauma and teaching professionals working with traumatized clients, our experience has led to us view this perspective as limited; we need a wider scope which allows us to sensibly describe trauma and reactions not easily interpreted within a simplified fight/flight frame.

In this article we present a number of our sources of inspiration and their contribution to the development of a more complex understanding. We will list perspectives for future understanding of coping skills and survival strategies in relation to trauma and (post) traumatic stress.

Coping skills and survival strategies - defining the terms

In this article the terms will be used in the following way:

Coping skills are reactions and skills subject to will. This means you can choose whether to use them or not. These skills are suitable for use in states of low to moderate arousal where you are still able to act accordingly.

When arousal increases - for instance in life threatening situations - a string of reactions and action impulses are activated that are not governed by will. These survival reactions can also be viewed as a set of skills that are either innate dispositions modified through experience and learning, or are taught and automated to a degree where using them no longer takes conscious activation or control.

Through our life experiences we develop certain characteristics and behavioral patterns that impact how we are in the world. These patterns form our personality.

These patterns may be enhanced or changed/overlaid by consciously directed or implicitly developed survival strategies that follow traumatic events, in an attempt to control unpredictable potential threats and trauma. These survival strategies are fixed by whatever unprocessed and un-integrated experiences and reactions are left unresolved from the traumatic events.

Levine's model

Levine (1989, 1997) describes trauma reactions in a way that corresponds with the reactions found in prey under attack from predators. Where the classic descriptions primarily focus on fight/flight reactions and perhaps also paralysis (tonic immobility), Levine adds attention to orientation behavior.

Levine explains paralysis, in the form of freezing or "tonic immobility", as a survival reaction primarily activated through simultaneous activation of the sympathetic and parasympathetic autonomic nervous system. The scientific knowledge at the time of his writing, was that sympathetic innervation mobilized the individual's resources in relation to external threats

and challenges, which was replaced by parasympathetic innervation when recuperating after the challenge. The two sides of the autonomic nervous system were described as systems, which under normal circumstances alternated and reciprocally counteracted each other. It was Levine's notion that during paralysis a_retained and trapped accumulation of energy was held in the body and that it needed to be released - optimally as shaking - to pave the way for landing the arousal from the traumatic situation. Levine stressed that this process had to be slow and integrated - refraining from cathartic release, which could lead to the individual being overwhelmed and re-traumatized.

Levine (and also Kirschⁱⁱⁱ and Bodynamic Analysis^{iv} therapists) did however also mention another form of paralysis characterized by limp, given up body tonus. The 2 types of tonic immobility - one holding simultaneous sympathetic and parasympathetic activation (freeze) and the other one primarily strong parasympathetic activation (collapse) were both seen as being followed by physical numbness/emptiness and deadness at the psychological or mental level, corresponding with dissociation from pain and physical presence.

Model 1, below, lists the most important reactions during trauma according to Levine (1997).

Model 1: Important reactions to trauma according to Levine

- Orientation
- Arrest
- Flight
- Fight
- Paralysis (tonic immobility) including freeze and collapse

Bodynamic Analysis' approach to trauma reactions

The understanding of trauma reactions in Bodynamic Analysis is based in knowledge of patterns of muscle response. Deviations from a balanced presence in the body can appear as both tension - which within this theory is named hyperresponsive muscle response - and giving up which is named hyporesponsive muscle response. This exact point of departure has contributed to the attention within Bodynamic Analysis towards the two different forms of paralysis found in acutely traumatized individuals or as different post reactions and imprints in traumatized individuals.

The most significant difference in Bodynamic Analysis (Jørgensen, 1992; Levine & Bodynamic Institute, 1989) from Levine's model above is the distinct differentiation between the two kinds of paralysis and the perception that they express different reaction patterns in relation to trauma (model 2a, 2b).

Model 2a. Important reactions to trauma according to Bodynamic Analysis

- Orientation
- Arrest (at the time named preparation stop)
- Flight
- Fight
- Paralysis (freeze)
- Paralysis (collapse)

Another, and in many ways equally significant difference between the Bodynamic Analysis approach and Somatic Experiencing (Peter Levine's tradition) at this time, was Bodynamic Analysis' interest in another type of safety and safe place than was the norm within the biologically (and etologically) inspired models. With inspiration derived from attachment theory founder John Bowlby, it was proposed that we, as a species, seek safety in a social setting - with parents, friends and other peers - in addition to places that provide us with physical safety. Trauma where the assailant is a trusted person will therefore be much harder to contain and process. These thoughts however, did not lead to further systematic consideration within Bodynamic Analysis on whether different types of attachment patterns necessarily will affect how we seek or avoid safety in social contact.

A third important conclusion was that people in some situations place the survival of others before their own. This is particularly seen in parents who, in threatening situations, often respond with attempts to save or protect their children instead of seeking safety for themselves. It is though, a broader phenomenon than that. You see examples of people succeeding in, or dying while trying, to save others, whether it be strangers or people they are attached to like family members, friends, etc. This survival reaction can also be released in relationship to animals and to possessions such as your home or car.

To acknowledge the protection impulse as a powerful survival reaction parallel to flight, fight, etc., can be a crucial element in trauma work. To name and acknowledge actions and impulses to protect others can be a necessary precondition before other survival reactions such as flight impulses can be accessed.

Protection impulse is therefore added to the above list:

Model 2b. Important alternative reaction to trauma according to Bodynamic Analysis.

- Orientation
- Arrest (at the time named preparation stop)
- Flight
- Fight
- Paralysis (freeze)
- Paralysis (collapse)
- Protecting/rescuing others

A final significant awareness in Bodynamic Analysis relates to enhanced personality patterns as part of survival strategies following trauma. Jørgensen (1994) described how personality structures (then termed character structures), which develop in daily interaction with key people when growing up, may be enhanced or altered as a result of trauma.

Moaiku I - new thoughts on working with trauma and reaction patterns

Brantbjerg (2010b, 2010d, 2009, 2008) has within Moaiku - based on Bodynamic Analysis, - developed a theory and an approach that emphasize developing coping skills in everyday life, in relation to traumatic events, and to our reactions to these events.

It makes sense to differentiate between:

a. the skills we use to handle everyday social interaction,

- b. the particular reactions activated in traumatic situations, which are characterized by high level of activation by hyperarousal and/or hypoarousal of the autonomic nervous system, and
- c. the skills we use in coping with those states of high arousal that remain active if survival reactions are not resolved following a traumatic situation.

While developing theory and methods in Moaiku, Brantbjerg and Jørgensen drew inspiration from a range of new theoretical contributions within the field.

Modern theory and practice in working with dissociation

Van der Hart, Nijenhuis & Steele' (2006) present a theory on dissociation and guidelines for working with dissociative disorders. They update the work of Pierre Janet and offers, as such, a highly practical understanding of traumatized individuals.

This theory differentiates between degrees of dissociation and stresses the importance of working to develop coping skills in the present, before being able to contain and process past traumatic material - in alignment with Moaiku (and to some extent Bodynamic Analysis).

Modern understanding of loss and working with loss - Stroebe & Shut's theories

It seems quite peculiar to us that most understanding and processing trauma seem to be unaware of the extensive research, knowledge and experience developed within the field of loss and grief. Stroebe & Shut^{vi} developed a two-track model for coping with grief as well as highlighting the significance of attachment for reaction to loss (Jørgensen 2010, 2008).

Stroebe & Shut find that grief processes alternate between two tracks: The loss oriented track and the restoration-oriented track. Research indicates that grief processing often is different for men and women with men being more on the restoration track and women more on the loss track.

Their research highlights the significance of attachment styles on reaction to loss as well as the use of problem solving and emotional coping strategies.

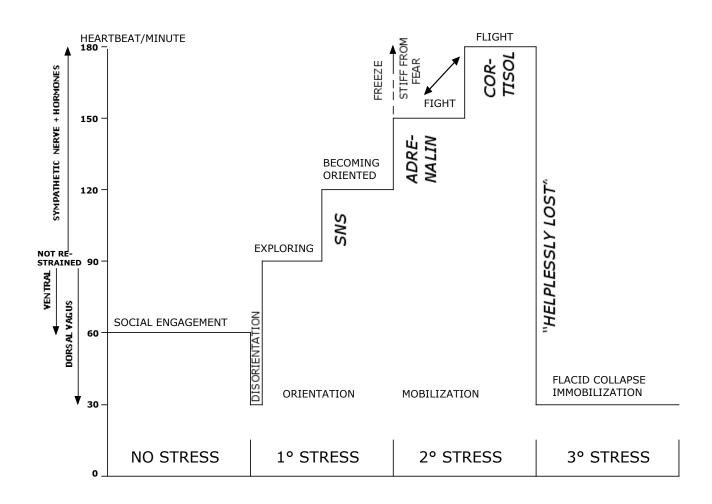
- The safely attached generally suffer from fewer psychological and physical symptoms than unsafely attached.
- Different types of unsafely attached display different reaction pattern to loss of a significant other.
- The unsafe-dependent generally have highly developed emotional coping strategies expressed as a rather emotional way of relating to loss. These individuals need support in developing more problem solving coping strategies making them more capable of relating to their altered reality.
- The opposite is the case for the unsafe-distancing. They do have good problem solving coping strategies, but are in need of support in developing more emotional coping strategies making them more capable of embracing the emotions of grief.
- In relation to the unsafe-anxiously attached that more often suffer from PTSD, the
 research scientists suggest to process trauma with treatment methods known to be
 used in PTSD. They find that the traumatic reaction stands in the way of normal
 grieving processes and this is why they advise treating this first (or before initiating
 the grief work).

Stroebe & Shut seems to consider trauma work as essential only in working with unsafe-anxiously attached persons, who has suffered trauma. Inspired by this - and the fact, that persons with other attachment styles can suffer from trauma/PTSD - Jørgensen & Brantbjerg has suggested, that a more correct model for understanding people, who suffer from the very common combination of trauma and loss, would be to consider a three-track model, where the processes in fact alternate between three tracks: a trauma related track, a loss oriented track and a restoration oriented track.

Kæreby - inspiration from Porges et al

Kæreby (2009)^{vii} developed a model drawing on inspiration from Levine, Porges^{viii} and to a lesser degree Ogden^{ix}. Kæreby describes different trauma reactions related to three levels of stress. Probably most importantly - inspired by Porges' theory based on anatomy research - Kæreby describes a vital difference between highly intensive trauma reactions, such as *freeze* and *collapse*. He describes the freeze pattern as an option immediately before fight/flight reactions, whereas *collapse* is viewed as the ultimate reaction pattern - in reality giving up and preparing to die. See model 3.

Model 3. developed by Flemming Kæreby to illustrate Stephen Porges's and Pat Ogdens theories.



Another key contribution from Porges is his theory of how coping with trauma and stress - also viewed anatomically and physiologically - ideally includes landing in social contact and interaction, and how establishing face-to-face contact is a vital component of containing and landing traumatic events and traumatically activated arousal.

Modern attachment theory - as well as Pat Ogden and Bruce Perry (more of this later) - also inspired the introduction of the term *attachment cry*, which is not only directed at parents, but also friends and peers.

Sørensen - inspired by Plutchik's psycho evolutionary emotion theory

Sørensen^x (2006) describes trauma and behavioural patterns in traumatized people with inspiration from Plutchik^{xi}, who, based on extensive research, developed a psycho evolutionary theory on emotions and their function. Plutchik describes 8 basic emotions involved in different types of behavior. Plutchik's model is described in detail in Sørensen (2006)

When dealing with loss and trauma it is interesting that Plutchik describes how the 8 basic emotions

- are triggered by stimulating events
- are tied to a particular cognitive activity
- have a characteristic emotional state, and
- are tied to a particular and obvious type of behavior
- serve a particular purpose for the individual

Plutchik also describes how different types of psychiatric illness can be related to the 8 different emotional systems but, as far as we know, not directly related to trauma and traumatic stress. Plutchik's view however, has immediate relevance to working with loss and traumatic memories. Five types of behavior are common reactions to traumatic events, two types are also quite common and the last one, joy, probably quite unusual, but not unthinkable. Plutchik's model indicates that trauma can lead to many types of reaction, not just the classic fight/flight and paralysis. See model 4.

Obvious behavior

Model 4. Plutchik's model (Sørensen 2006)

Anticipation/Expectation	Мар
Surprise	Stop
Fear	Escape
Anger	Attack
Joy	Retain or repeat
Sadness	Cry
Trust/Acceptance	Nurturing, Caretaking, Groom
Disgust	Vomit

Sørensen's focus has also been how different types of personality - based on their personality development - have different access to process traumatic events.

Emotional state

Perry and his colleagues

The research of Perry et al xii (1995) deals with traumatized children. Based on attachment theory and brain research they focus on two different and opposite patterns in coping with stress: A hyperarousal continuum and a dissociative continuum – alongside more complex and mixed patterns.

In their view boys and girls display different behavioral patterns: Most often boys display disorders within the hyperarousal continuum, while girls most often will display disorders within the dissociative continuum. This is in itself, a very interesting observation.

It is striking though that their model compares both boys and girls with a typical adult male type reaction pattern on trauma and does not mention or consider a may bee different adult female type of reaction. Whether this signifies a lack of interest on their part or that they did not follow through on patterns for adult men and women, we don't know.

Perry et al (1995) developed two models related to their theory, which are described in their article. We recommend the reader to check them out in the article.

Klein and her colleagues

Berkowitz brought attention to the work of Klein^{xiii} and her colleagues (Tailor et al 2002) about male and female strategies for stress and trauma. The idea is that women, in many cases, don't react to stress and trauma as men prefer (with fight/flight reactions), but instead adapt to the new reality by establishing contact to female communities - termed Tend-and-Befriend.

They base this argument on modern observation, even though they perceive this pattern as historically linked and in part, because women historically have carried a larger responsibility for their offspring than men. They also see a possible connection between modern knowledge and research on the effect of the "anti stress" hormone, oxytocin, which is found in higher levels in women than in men, and which is enhanced by female sex hormones.

The reflections of Klein et al are parallel to the earlier mentioned observation that people may react in traumatic situations by taking care of others. What Klein et al especially consider is whether men and women have different preferences amongst the survival reactions. Their hypothesis is that women more often will react with protection impulse compared to men.

Moaiku II - more thoughts on trauma and reaction patterns

Brantbjerg and Jørgensen have, each in their own way, contributed to Moaiku's theoretical framework: The understanding that there are different types of coping skills and survival strategies related to different types of trauma. Before anything else, we see it as important to differentiate between trauma played out in a predator/prey type context, and trauma happening in interactions within the same species.

According to Jørgensen (2010), it is important to differentiate between the two kinds of trauma. In contrast to the issue in life threatening trauma, trauma in interaction within the same species is usually about boundaries and 'benefits' - first and foremost food, partners

and influence - and includes establishing possible patterns of equality, dominance and submission.

Brantbjerg's concern has been how patterns of dominance and submission both affect the potential to seek help - within the social network and professionally - and can obstruct seeking or receiving help in the first place. A traumatized individual can be impacted by dominance and submission in general, by specific experiences in the trauma itself, or in the help needing phase following the trauma.

One particular issue is the reaction found in interpersonal trauma entailing dominance and submission - manifested in behavior where the traumatized individual takes a more or less actively dominant or submissive role. Moaiku names this "joining" in a locked interaction. There are different types and levels, ranging from taking on the role of the victim in a sadistic/masochistic like relationship, to participating in bullying others, or submitting and directly taking a role as the executioner or abuser.

In developing Moaiku trauma therapy, a range of coping skills and patterns has been described which is relevant both when processing trauma that fits the predator/prey model and the model for interaction within the same species.

Identity and cognitive aspects of trauma patterns

Brantbjerg (2010c) has been engaged in how trauma, and processing patterns following trauma, impacts people's perception of their own identity. Inspired by Marcia's identity positions, she describes how people, as a result of trauma and as part of processing trauma, often need to revise their perception of their own identity. Knowledge of different identity positions is helpful when choosing the kind of therapeutic support and process you want to offer traumatized individuals.

Cognitive behavior therapy for PTSD^{xv} inspired our introduction of the term "added meaning" in trauma (which describes additions and evaluations, which is not logical or realistically connected to the traumatic event), instead of the term "decisions", previously covering this phenomenon in Bodynamic Analysis. We also started using the terms "maintaining behavior" and "avoidance behavior". Both terms, inspired by Cognitive Behavioral Therapy for PTSD and by Acceptance and Commitment Therapy $(ACT)^{xvi}$, make a lot of sense when becoming aware of how trauma patterns are maintained – and the choices involved in changing these patterns.

We have become increasingly aware of the verbal language used, which is a key factor in how trauma patterns are maintained. Apart from the early inspiration from Satir xvii and the Palo Alto group of researchers on communication, we have become interested in recent developments within cognitive behavioral therapy (ACT and DBT xviii) and Systems Centered Therapy (SCT) xix . They all clearly differentiate factual information and emotional interpretation. Terms such as ACT's "categorical thinking" and STC's "frames" is important tools, when you work on helping the client become more aware of the verbal aspects of how trauma patterns are maintained.

Meditation and zen Buddhistic philosophy was a natural inspiration for Bodynamic Analysis, which had a background in relaxation therapy in the 1970's and the Gestalt Therapy concept of awareness. In modern (3rd generation) mindfulness based cognitive behavioral therapy,

which includes mindfulness as part of therapy, there is a similar use of attention and awareness. In Moaiku we are now mostly using the term mindfulness¹ where earlier would have used the term awareness.

We have chosen to update Moaiku's language of observing experience and interaction. Inspired by ACT, we introduce the term "the observing self", which we now use where we previously used "the observing ego", or an observing part of the personality.

Extensive systemic inspiration is drawn from Systems Centered Therapy (SCT) - described in "Systemic Skills" in ROST training manual (Brantbjerg 2010a).

Valent - eight survival strategies in traumatic stress

Recently our attention has been drawn to the works of Valent^{xx}, who describes a wide range of survival strategies that might occur in the wake of traumatic events.

Valent's (2007) critizeses the 4^{th} criterion of the PTSD diagnosis which emphasizes fight/flight reactions and ignores a whole range of other potential survival reactions that may be part of coping with trauma and traumatic stress.

Valent notices in other earlier works how it seems that different, extensive, changing and often counteracting survival responses to trauma stem from different survival strategies. He points to Plutchik, who noted eight means of survival, each associated with a specific primary emotion, and Panksepp, who described five executive command systems subserving survival. Valent has developed a model of eight survival strategies² that correspond, overlap and differ from both of these models. See model 4.

Model 4: Valent's eight survival strategies (2007)

- Flight
- Fight
- Rescue; Caretaking
- Attachment
- Goal Achievement; Assertiveness
- Goal Surrender; Adaptation
- Competition; Struggle
- Cooperation; Love

In his article, Valent presents an extensive "Survival Strategies Table", which deserves some attention. He describes areas of the brain, biological (hormonal), psychological and social aspects, misadaptations, etc. for each of the eight different survival strategies.

¹ Mindfullnes is originally a Buddhistic term, - and in fact the western use of the concept refers to different traditions - Indian, Tibetan, Chinese, Japanese - with a very different view of control of the mind and body and of the respiration process. In Moaiku our inspiration is primarily mindfullnes as it is understood in Japanese zen Buddhistic meditation and the Vietnamese tradition represented by Thick Nhat Hahn.

² One could question whether there are exactly 4 opposite pairs and 8 different survival strategies - it makes for an interesting model, but why not 7 or 9? A similar criticism could be directed at Plutchik's model.

Moaiku III - Conclusion and Perspectives

It is useful to differentiate between coping skills that are limited in scope and function and more extensive survival strategies in relation to trauma and traumatic stress. It is also relevant to speak of coping skills in relation to states of high unreleased arousal.

Moaiku works with a range of coping skills where most involve sensing the body - or alternatively sensing and actively using the body at the same time. Most of these skills can be used in normal, non-traumatic situations. All of them can be practiced and trained - and different skills will seem more or less meaningful and useful for the individual.

We differentiate between:

- Basic presence and coping skills (such as mobility, centering, grounding, boundaries and orientation)
- Coping with and regulating high arousal and high energy states
- Contact skills (such as saying Stop, stepping aside, joining, engaging, asking/crying for help, ending contact, saying goodbye)
- Skills of optimizing safety
- Skills of coping with emotions at different levels of intensity
- Orientation skills

In traumatic situations with high arousal we use, without conscious decision, a range of reactions; some are innate and to some extent modified by experience, and others are trained until they become automatic, which makes it possible to use them in situations where normal coping doesn't work.

These reactions are - amongst others:

- Orientation
- Arrest
- Attachment cry
- Freezing
- Flight
- Fight
- Protecting/rescuing others
- · Collapse preparing to die

Only with some of these reactions is it meaningful to talk about them as being automated skills (not likely freezing and collapse) Even if it may prove fruitful to work with conscious elements of these reactions, the most significant part of trauma work is acknowledging them and viewing them as survival strategies contributing to bringing the traumatized client through the traumatic event - regardless of whether you sympathize with them or not, when you reflect on the traumatic events afterwards.

A person can also favor a survival strategy after a traumatic experience as a life strategy. It is very common to see an increase or decrease in threshold for stimulus (orientation) and an increased fight or flight readiness, or other patterns provoked or enhanced by traumatic events such as described by Valent (2007). To this is added a person's characteristic personality structure (previously described as character structures in accordance with

Reichian and psychodynamic theory), which may be enhanced or activated by trauma and traumatic stress (Jørgensen, 1994).

Just as you, under normal circumstances, can differentiate between body areas with different patterns (balanced, hyperresponsive and hyporesponsive) of muscle response, you can differentiate between different states of arousal and two different dimensions: Levels of intensity and the phenomena hyperarousal and hypoarousal.

Getting to know these states and relating to them, perhaps even learning to move between them, is, in our experience, a viable way to learn to cope with different types of arousal and thereby begin to heal traumatic states. (We lean towards Frewen & Lanius (2006) who, in relation to the revising of PTSD diagnosis, argue that PTSD primarily is a disturbance in the affect arousal regulation).

From our perspective, it is crucial to differentiate between trauma that can be understood from the predator/prey model and trauma occurring in interactions within the same species, which usually holds issues of dominance and submission. The latter demands special attention and ways of working when processing trauma, because dominance/submission dynamics impact establishing trust to others and thereby the possibility of receiving help from a network, professional therapists or other group members.

From an ethological perspective we can differentiate between confrontation between predator and prey, which can be described and understood from a classic trauma model perspective - and confrontations within a species. The latter may involve a life/death dimension, but don't have to. Confrontation within a species usually involves one of the following themes:

- Territorial boundaries
- Fight for position in the group (hierarchy)
- Fight for distribution of wealth (food, potential (sex) partners)
- Protecting offspring

The normal solution to this type of conflict is current or more lasting patterns of dominance and submission – more rare³ is fight resulting in loser's death. Conflict within the same species may display different types of reactions – such as "joining" behavior and certain reactions linked to 3rd degree stress, which are not usually mentioned in the fight/flight model.⁴ We differentiate between two types of 3rd degree stress reactions, and name them forms of going crazy – one tied to hyperarousal and one tied to hypoarousal:

- Going crazy in rage/dominance disintegrating reality (characterized by hyperarousal)
- Going crazy in submission disintegrating reality (characterized by hypoarousal)

These ways of 'going crazy' are to most people profoundly terrifying and anxiety provoking - to those who experience them, as well as others - and at the same time being somehow scarily fascinating. This type of reaction profoundly affects a group - and can hardly be

³ As opposed to most other species, fights within the species in humans and chimpanzees may involve killing the underdog , and it has been argued that humans and chimpanzees are the only species that seem to enjoy tormenting others and killing.

⁴ This kind of reactions can also be found in predator/prey interaction and for instance in disasters, where more or less direct psychotic behavior can be seen.

ignored without consequence for the group - even though a typical pattern will be to try to ignore or pay special attention or make the bearer the scapegoat or victim.

A preliminary, but more complete list of survival reactions will then be:

- Orientation
- Arrest
- Attachment cry
- Freezing
- Flight
- Fight
- Collapse preparing to die
- Protecting/rescuing others
- Dominant behavior also 'joining' behavior
- Submissive behavior also 'joining' behavior
- Going crazy in rage/dominance disintegrating reality (acting out/hyperarousal)
- Going crazy in submission disintegrating reality (passive/hypoarousal)

We want to stress that processing trauma often means working with events that included a loss; loss of people you were attached to, convictions and perceptions of the world. Which is why it is important to be aware of at least three tracks involved in this process. (See section above about the grieving process).

At the same time, it is important to work on strengthening and extending present function in everyday life, before venturing into the process of integrating traumatic material. For some people with less optimal boundaries and integration of the personality this is the core of the process.

It is critical that we take into account that trauma processing will vary depending on the client's attachment style - and clearly more simply the healthier the attachment style. Also their experience and patterns regarding dominance, submission and equality will profoundly impact the work with trauma, primarily caused by interaction within the same species - and also trauma that may be viewed from a predator/prey perspective, because any trauma holds a relational aspect in the help seeking phase following the trauma.

As established in relation to loss and grieving processes (as described by Perry and Klein), we must be aware that there are possibly different male and female survival strategies when it comes to trauma - or, as Valent writes, many different potential survival strategies, - where some are more common among men and others among women - without there being anything conclusive as to whether one is more appropriate than another.

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In the English version a series of last notes is added, giving data on some of the sources of inspiration.

- ⁱⁱ **Peter A. Levine** is an American psycho-physiological trauma theorist and psychotherapist. Levine's psychophysiological trauma theory is informed by what biologists (ethologists) call the *immobility response*, a survival enhancing fixed action pattern evolved in prey animals which is triggered by the perceived imminence of being killed by a predator. He is the originator of "Somatic Experiencing" method.
- "" Carl Kirsch is an American psychiatrist and former trainer in Bioenergetic Analysis, who first introduced Steen Jørgensen (and the later developed Bodynamic Analysis) to the concept of trauma and PTSD. His brother Sander Kirsch also a former trainer in Bioenergetic Analyses has written several articles on the topic in Energy and Character.
- of founding members under the direction of Lisbeth Marcher. One of the main interests has been the theoretical and practical understanding of trauma and PTSD and body-psychotherapy based on this knowledge. In the early years Bodynamic Analytic work with trauma had besides practical experience from doing body-psychotherapy inspiration from Kirsch and others and interchange with Levine later further development include work with and understanding of the peak aspects of trauma.
- Vonno van der Hart is a Dutch psychologist, psychotherapist and researcher. He is specialized in the treatment of clients with complex trauma-related disorder. He has published several books in the area of trauma and dissociation, loss, and bereavement, and over 100 articles on these topics. Currently, Onno van der Hart continues to work with colleagues Ellert Nijenhuis, PhD, and Kathy Steele, MN, CS, on a theoretical approach on trauma-related structural dissociation of the personality and treatment model which unifies psychiatric disorders with a traumatic stress origin. Their combined efforts resulted, among other things, in the publication of their book, The Haunted Self: Structural Dissociation and the Treatment of Chronic Traumatization.
- vi Margaret Stroebe and Henk Shut are Dutch psychologists and researchers. They have in many years conducted research on loss, bereavement and the effect of intervention on bereavement processes. They have contributed to the spreading of the newest knowledge on the topic through their Handbook of Bereavement Research and many articles.
- vii Flemming Kæreby has an academic background in physiological biochemistry, which he applied in teaching medical student on the topic of stress. He now works as a psychotherapist with an extensive background and education in family and couples therapy and in working on trauma (certified in Levines "Somatic Experiencing").
- viii Stephen Porges is a neuroscientist with particular interests in understanding the neurobiology of social behavior. In 1994 he proposed the Polyvagal Theory, a theory that links the evolution of the autonomic nervous system to the emergence of social behavior. The theory provides insights into the mechanisms mediating symptoms observed in several behavioral, psychiatric, and physical disorders. The theory has stimulated research and treatments that emphasize the importance of physiological state and behavioral regulation in the expression of several psychiatric disorders including autism and provides a theoretical perspective to study and to treat stress and trauma.
- Pat Ogden is the founder and director of the Sensorimotor Psychotherapy Institute, an internationally recognized school that specializes in training psychotherapists in somatic/cognitive approaches for the treatment of trauma, developmental and attachment issues. She is trained in a variety of somatic and psychotherapeutic approaches and has worked with a diversity of populations, including survivors of trauma. As a pioneer in somatic psychotherapy and the treatment of trauma, she has 34 years experience working with individuals and groups. She is the first author of the book, Trauma and the Body: A Sensorimotor Approach to Psychotherapy.
- * **Jens Hardy Sørensen** is a Danish psychologist with more than 30 years of practice as clinical psychologist. He is chief psychologist and researcher at CETT (Center for Trauma and Torture survivors, situated in the southern

ⁱ This article is a slightly revised translation of the Danish original:

region of Denmark), and has contributed to different books in Danish on mentalization based psychotherapy and dissociation.

- ^{xi} Robert Plutchik is known as a psychologist with a strong interest in the study of emotions. He has authored or coauthored numerous articles, chapters and books. His psychoevolutionary theory of emotion is one of the most influential classification approaches for general emotional responses. He considered there to be eight primary emotions anger, fear, sadness, disgust, surprise, anticipation, trust, and joy. Plutchik proposed that these 'basic' emotions are biologically primitive and have evolved in order to increase the reproductive fitness of the animal. Plutchik argues for the primacy of these emotions by showing each to be the trigger of behavior with high survival value, such as the way fear inspires the fight-or-flight response.
- xii Bruce D. Perry is an active teacher, clinician and researcher in children's mental health and the neurosciences holding a variety of academic positions. His clinical research and practice has focused on high-risk children examining long-term cognitive, behavioral, emotional, social, and physiological effects of neglect and trauma in children, adolescents and adults. He is the author of over 300 journal articles, book chapters and scientific proceedings. He is the author, with Maia Szalavitz, of *The Boy Who Was Raised As A Dog*, a bestselling book based on his work with maltreated children and *Born For Love: Why Empathy is Essential and Endangered*, to be published in April of 2010.
- xiii Laura Cousino Klein is an American psychologist, who is Assistant Professor at the Biobehavioral Health Studies Laboratory, Penn State University. One of the three main topics for the research is developmental influence on biobehavioral stress responses. Her human work is examining sex differences in the biobehavioral effects of stress, as well as the stress-mediating effects of nicotine in men and women. For example, she is examining the stress-regulatory effects of the posterior pituitary hormones, oxytocin and vasopressin.
- xiv James E. Marcia is a Canadian clinical and developmental psychologist. He is perhaps best known for his extensive research and writings on psychological development, with specific attention focused on adolescent psychosocial development and lifespan identity development. Erik H. Erikson had suggested that the normative conflict occurring in adolescence is the opposition between identity achievement and identity confusion. Marcia elaborated on Erikson's proposal by suggesting this stage consists neither of identity resolution nor identity confusion as Erikson claimed, but is better understood as the extent to which one has both explored and committed to an identity in a variety of life domains including politics, occupation, religion, intimate relationships, friendships, and gender roles.
- xv Most likely there has been developed several kinds of **Cognitive Behavior Therapy for PTSD** our inspiration is the treatment conceived by **Ehlers & Clark** (2000) and Ehlers (2009).
- xvi Acceptance and Commitment Therapy (ACT) is a central tradition in "third generation cognitive behavioral therapy", which includes working with mindfulness in psychotherapy. It has extensive focus on the role of language in psychological problems and avoidance as an important problem in human life. A central founder of the tradition is Stephen C. Hayes.
- xvii The family therapist **Virginia Satir** is inspired by the **Palo Alto group** the same goes for Bandler & Grinder, who developed Neuro Linguistic Programming (NLP).
- xviii Dialectic Behavioral Therapy (DBT) is another tradition in "third generation cognitive behavioral therapy" developed by Marsha Linehan for working with self-mutilating and suicidal borderline clients.
- xix Systems Centered Therapy (SCT) is developed by Yvonne M. Agazarian. It has focus on developing a group with working energy focused on its goals. The approach has a Systems-centered Approach to the group as a whole.
- ** Paul Valent survived Holocaust with his parents in Hungary, which led to his interest interest in the workings of the mind and in traumatology. He has worked as a psychiatrist and psychotherapist for 35 years. He was among the first traumatologists in Australia and cofounded the Australasian Society for Traumatic Stress.
- In the course of his work he saw the close interactions between mind body and society, and how trauma disrupts the normal fulfilment strivings of biopsychosocial humans. He have developed a framework (the wholist perspective) to denote details of fulfilment and of survival strategies that mitigate stress and trauma.