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Emotion is motion: Improving emotion regulation through movement intervention

Abstract

After a brief definition of terms and reference to the role of the therapeutic relationship, two approaches to facilitating regulation in the individual through movement are focussed upon: 1) Working separately with abstract movement components of emotional expression, before addressing the semantic level of the meaning of movement. 2) The conception of emotion as a bodily process, with several discrete stages, which can be acted upon using movement interventions. A short case study demonstrates the realization of these approaches in practice.

Keywords: Emotion, embodiment, emotion regulation, dance-movement therapy, body psychotherapy

Emotion and Emotion regulation

Emotions are the motors of human development and catalysts of therapeutic change. Resulting from a precognitive perception of internal or external stimuli, emotions are processes which initiate neuro-physiological and motoric changes in the body, followed by cognitive processes such as awareness and the ascribing of meaning (Le Doux 1999). Accordingly, I sense my anger through the tension in my jaw, rather than I tense my jaw because I am angry. As a result of the somatic reaction, the appraisal of an event takes place, on the basis of our phylogenesis or individual experience. The event may be happening in the present, remembered from the past or imagined for the future (Gross & Thompson 2007). According to the evaluation made in terms of general categories of safe/good and dangerous/bad, action patterns of the body are set in motion to fulfil needs and secure our survival (Holodynski & Oerter 2012, Russel 2003). The ability to regulate emotional reactions to internal and external events is a central component of mental health. Accordingly, emotion dysregulation is inherent in most mental illnesses (Rudolf 2013, Geuter 2006). Emotion regulation can be defined as the active influence upon the type, occurrence, intensity, duration, expression and experience of an anticipated, present or past emotion, through action or cognitive (self) instruction, in order to achieve one's goals in a specific context (Gross 2015, Seiferling et al. 2014). Emotion dysregulation entails that the

above mentioned elements of emotion regulation are either lacking, insufficiently developed, or have been disturbed, due to experiences such as traumatization (In Albon 2013). While the ability to understand and regulate the emotions of others is interwoven with the ability to regulate one's own emotions, this article will focus on promoting the self-regulation of the individual. Emotion is embodied, which means that it is grounded in the organism's perceptual, somatosensory, and motor experiences and embedded in a specific context. (Winkielman et al. 2015, Wilson-Mendenhall et al. 2011). This is true not only "online," when people respond to real emotional objects, but also "offline," when people respond to the meanings of emotional symbols, such as words (Niedenthal et al. 2005). Therefore, emotion regulation facilitated on a body/movement level has more impact as a mechanism of therapeutic change than verbally transmitted cognitive insight or behaviour control (Hauke 2015, van der Kolk 2006). Dance-movement therapy and body psychotherapy have a rich stock of intervention concepts and techniques on a body and movement level to offer. A few of these will be presented here, to inspire therapists to address the embodiment of emotion and effectively facilitate emotion regulation.

Co-regulation of Emotion in the therapeutic relationship

A central conclusion of research on the neurobiology of infant development and psychotherapy is that the acquirement of affect regulation is dependent on the experience of nonverbal, psychobiological attunement in a relationship of bonding (Hüther 2005, Schore 2003). Accordingly, the interventions presented in this paper will not be effective without their embedment within a therapeutic relationship that fulfils the following criteria:

1. Provision of a framework that secures physical and social safety, fostering trust,
2. Sensitivity to the needs of the patient expressed in considering the duration, frequency, point in time, and semantic fitting of interventions (Geuter & Schrauth 2006),
3. Provision of emotional and physical support – encouraging, empathizing, appreciating, bearing with, containing, and standing up to the patient,
4. Provision of proxy functions – awareness, acceptance, protection, regulation, structuring, well-dosed frustration, and challenging, which are phased-out as self-regulation is achieved,

5 Authentic presence placed at the disposal of the patient – emotional resonance, physical/sensory presence, and alterity as catalyser, model and friction for growth.

From this foundation, we can turn to the specific models of movement intervention, the first of which is based on the above mentioned infant development research.

Deconstruction and Reconstruction of emotion regulation

Most patients are afraid of their emotions and try to avoid dealing with them explicitly. They may extend this fear to the body, where the emotions originate. This presents us with a challenge, when attempting to treat emotion dysregulation without negative side effects. Movement lends itself to the development of emotion regulation, not only because the body is always involved in emotional processes, but also because movement is simultaneously

functional and semantic, and we can choose which aspect we wish to focus on.
We owe this discovery to Rudolf von Laban, a dancer and movement researcher who later also worked therapeutically. At the beginning of the 20th century he revolutionized our view of movement in that he shifted his focus from the "what" of a movement to the "how". Imagine someone putting their hand on your shoulder (what). The same movement could be done with a gentle quality or with force, quickly or slowly (how). Each of these experiences would arouse very different feelings, if we were to focus our attention on that aspect. With his system of Laban Movement Analysis (LMA) Laban deconstructed the "how" of movement into its fundamental elements, such as tension, time, weight, or shape, before reconstructing semantic connections between specific movements, cognition and emotion (Laban, 1950/2003).
The pioneers of dance therapy recognised that the principle of deconstruction and reconstruction could be applied to emotion regulation: a complex expression of emotion can be broken down into its functional components and each can be facilitated separately, without arousing fears connected with the semantic level, until regulatory skills have been attained (North 1972, Schoop 1974). For example, the purpose of anger is to eliminate hindrances and/or capture resources, therefore it is usually expressed with high tension, fast tempo, strong force and forward direction. Playing with changes in either tension, or tempo, or any of the other individual elements can introduce regulation ability before any sort of connection to the feeling of anger is present. Often the patient will lead the way, ignoring the semantic aspect of their actions at first and with time noticing its emotional potential, and integrating it into their activity. At this point, the single movement components can be put back together to (re)construct complex emotional expression infused with current or biographical meanings.
Infant researcher and psychotherapist Judith Kestenberg (1967, 1975), further elaborated LMA into the Kestenberg Movement Profile (KMP) through the study of the development of affect attunement and affect regulation between parents and children. Her work in turn inspired Daniel Stern (1992, 2010). In his final book 2010 Stern referred to patterns of dynamic qualities as ***vitality forms*** (Stern, 2010) such as fading (gradual tempo, decreasing intensity), drawn out (long duration, even flow of intensity), or explosive (abrupt tempo and high intensity). Such patterns refer not only to the expression of emotions, but to any movement process. While it is possible to display anger explosively, it is just as well possible to jump explosively out of one's chair, or to explosively turn the page of a newspaper. With this example, we can anticipate how everyday movements can be used to prepare for emotional control and expression. Further situational aspects are required to embody ***categorical affects*** such as fear, sadness or joy, and we may choose whether or not we wish to add these to the movement work with the patient.
In my clinical work, I found the systematic inventory of possible dynamic and form qualities as conceived by Kestenberg (Kestenberg-Amighi et. al. 1999) a valuable clinical resource for addressing emotion regulation. Tables 1 and 2 show that there is more than one way to modify an action or an expression, in order to increase or reduce its emotional intensity. The

tables apply the general principles of LMA and the Kestenberg Movement Profile to the specific situation of emotion regulation. They present a systematic selection of modalities that have proven successful in a clinical setting, using terminology that worked well with patients. The lines with grey shading contain the factors of movement such as tension, space, weight and the use of body parts. The column on the left contains the ***functions*** of the respective factors for the regulation of affect. In the central column the polar qualities of the factors as defined by Kestenberg are named, along with the ***modalities*** for affect regulation derived from them. Finally, in the column on the right we find ***descriptions*** of the application of the modality.
Besides being used for psychoeducation about emotion regulation or for diagnostics, the elements in Tables 1 and 2 can also be used to modulate verbal interventions and techniques, because all activity, also speech, is subject to vitality forms.

I will now explain the procedure for facilitating emotion regulation using the tables. Trauma and affect research have revealed that the ability to ***control*** affects is a prerequisite for the ability to be aware of and express affects (Rothschild 2002). According to Laban (2003) and Damasio (1999) the basis of motor control and affect regulation is the oscillation between the poles of bound tension = inhibition and free or relaxed tension = freedom of movement. The methodological consequence is to warm up with movements that support tensing up, stopping movement flow, and "keeping a grip" on oneself, rather than movements that support relaxing or loosening up.
For the same reason, we recommend working with the polar qualities of tension flow and shape flow in such a way that we begin with the restraining modalities, emphasising and valuing their protective functions. For inhibited patients the emphasis on restraining matches their natural behaviour and conveys a sense of security. For more impulsive patients, the restraining modes reduce the danger of physical injury, property damage or emotional overwhelming. Accordingly, the table has been constructed such that the restraining modalities for each movement factor are mentioned before the liberating modalities.

After warming up, a movement activity to practice with is chosen in agreement with the patients. This might be a large, full body movement such as walking, waving a scarf, stamping one's feet or hitting a gym ball with a stick. In this case, the therapist should make sure that the movement does not injure the patient or damage property. In contrast, small, isolated movements like the gesture of a finger, hand or foot may convey more safety to the patients. The movement can be chosen for being semantically unrelated to the emotion with which the patients have difficulty, and we can agree not to go into the meaning of the movements. Alternatively, we can choose a movement that clearly expresses the emotion in question, depending on the capacities and interests of the patients. We then choose modalities from the table with which to form and modify the movement, thereby developing emotion regulation. In order to discover which factors or modalities are suitable for the individual patient, we may ask directly, observe her movement behaviour, or listen to the figures of speech she uses.

Emotion Regulation using Kestenberg's Tension Flow Concepts		
Functions	*Modalities*	*Descriptions*
Movement Factor Tension Flow		
Initiative	ending	Action is consciously terminated; perhaps with a verbal command such as "Stop!"
	beginning	Action is consciously commenced; perhaps with a verbal command such as "Go!"
Control of Movement	neutralising movement (freezing, going limp)	Immobilization of the body, by freezing or going limp, inhibits the execution of the chosen movement (movement equivalent to dissociation)
	increasing control (bound flow)	The movement is mobilized and kept under control through increasing tension
	reducing control (free flow)	The movement is mobilized and allowed to flow freely through reducing tension
Movement Factor Space		
Attention in Space	averting attention	Attention is diverted from the emotional activity
	directing attention	Attention is directed toward the emotional activity
	dividing attention	While performing the movement, attention is simultaneously directed elsewhere ("dual awareness"*)
	fully attending	The movement is performed with complete attention
Spatial Structuring	**Direction:** scattering	The action is performed in various, non-particular directions in space, or directed at various meaningless targets
	focussing	The action is aimed intentionally toward a person or a symbolically charged target
	Fluctuation: changeability (flow adjustment)	The movement is performed in changing variations, or in alternation with other movements
	constancy (even flow)	The movement is performed continuously with the same constant quality
Movement Factor Weight		
Intention, Evaluation	withdrawing (unwillingness, displeasure)	Taking note of whether something about the action is unpleasant or causes opposition and then withdrawing one's energy from the action in response
	engaging (willingness, pleasure)	Taking note of what is pleasurable or motivating about the action and engaging one's energy fully with this aspect
Intensity	low/reducing	The intensity of the movement is reduced step by step.
	high/increasing	The movement is performed with increasing intensity, for example in five stages (and reduced again)

Force	light	The movement is executed with a gentle, light quality
	strong	The movement is executed with a forceful, strong quality
Movement Factor Time		
Temporal Structuring	**Duration:** shortening	The duration of the activity is shortened
	lengthening	The activity is performed in periods of increasing length
	Transitions: abrupt	The movement is commenced and terminated abruptly
	gradual	The movement is commenced and terminated gradually
	Tempo: accelerating	The movement is performed slower and slower
	decelerating	The movement is performed faster and faster

Table 1: Emotion regulation using Kestenberg's tension flow attributes (Eberhard 2006/2013, 2009, based on Kestenberg-Amighi et al. 1999; Laban 2003) (*Rothschild 2002)

Therapists should be aware that after years of avoidance of certain or all emotions, the danger exists that some patients will react to emotional expression with overwhelming affects, uncontrollable flashbacks or fears of having violated internal, perpetrator-oriented rules of conduct with their expansive behaviour, which leads to fears of being punished or abandoned. They may then resort to auto-aggressive forms of self-regulation to deal with the situation. For this reason, we allow the patients time to pause and track their experience, during the movement process and afterwards, to be sure the intervention is truly tolerable. If it is not, the expansivity is reduced to a level that can be tolerated, or the work on emotions is interrupted to work on the perpetrator introjects, for example as suggested bei Peichl (2014).
In the next chapter, the movement elements of dynamic and form, and the use of functional movement training will be integrated in a process model of emotion regulation.

A model of emotion as a bodily process

Various authors have considered emotion not just as a moment of expression but as a process with many stages, each of which is vulnerable to disturbance. In this way, the emotional characteristics of various mental illnesses can be understood. The disturbances may be a result of developmental deficits or trauma, or they may be strategies a person established to cope with particular situations. Consequently, therapists must be prepared to intervene at any stage of the emotional process, depending upon where the patient has strengths or weaknesses. In figure 1. below, stage-related concepts from biodynamic (Southwell 1990, Geuter & Schrauth 2001, 2006), psychodynamic (Rudolf 2013) and behavioral (Linehan 1993, Gross & Thompson 2007) perspectives have been combined in an integrated process model. Figure 2. expands on Geuter and Schrauth's depiction of forms of emotional dysfunction, corresponding to the stages introduced in figure 1.

Emotion Regulation using Kestenberg's Shape Flow and Body Investment Concepts		
Functions	*Modalities*	*Descriptions*
Movement Factor Shape Flow		
Expansion in space	**Amplitude:** small	The activity is performed with a small amplitude
	large	The activity is performed as largely as possible
	Relation to a point in space: stationary	The activity is performed while remaining on the same spot in the room
	travelling	The activity is performed while travelling around the room
	Distance: far	The movement increases distance to a target object
	near	The movement decreases distance to a target object
Direction in relation to the body	towards	The action is directed towards the body
	away	The action is directed away from the body, possibly towards an object
Direction in space	horizontal	Medial: the movement is directed sideways across the midline of the body (closed)
		Lateral: the movement is directed sideways away from the midline of the body (open)
	vertikal	Downwards: the movement is directed to the floor
		Upwards: the movement is directed toward the ceiling
	sagittal	Backwards: the movement is directed behind the body
		Forwards: the movement is directed in front of the body
Movement Factor Body Investment		
Co-ordination of body parts	isolated	The action is performed with only a single body part or with multiple body parts doing separate actions which may counteract each other
	unified	The action involves the whole body or multiple body parts joining in a single intention
Transfer of weight	Holding back: static weight/gestural	The movement is performed without transferring weight, using only gestures of the limbs
	Engaging: transferring weight/ postural	The movement is emphasised with weight transfer, changing postures of the whole body

Table 2: Emotion regulation using Kestenberg's tension flow attributes (Eberhard 2006/2013, 2009, based on Kestenberg-Amighi et al. 1999; Laban 2003)

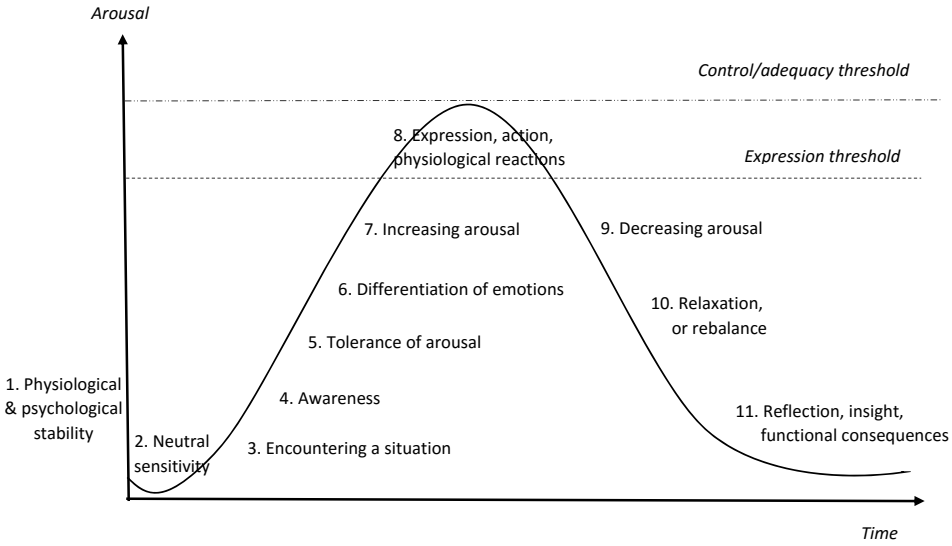

Figure 1: Ideal embodied process of emotion, integrating elements from Southwell 1990, Linehan 1993, Geuter & Schrauth 2001, Gross & Thompson 2007 and Rudolf 2013.

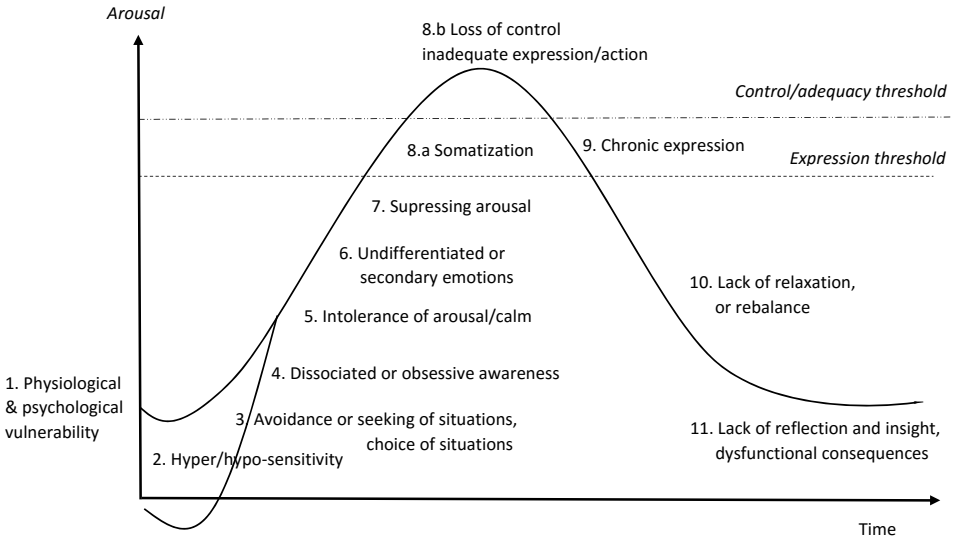

Figure 2: Disturbances of the embodied process of emotion, integrating elements from Southwell 1990, Linehan 1993, Geuter & Schrauth 2001, Gross & Thompson 2007, and Rudolf 2013)

The figures 1 and 2 can be used to give a patient a general introduction to the nature and function of emotions, and the role of culture and social context (display rules) in emotion regulation, before beginning active interventions. Alternatively, patients can be shown the figures for diagnostic purposes, and asked which phases of the emotional process are easy or difficult for them to experience. Descriptions and applications of the stages of the process model of emotion will be given in the next segment.

Stages, disturbances and interventions

In this passage, each stage in figure 1. will be briefly explained, followed by the associated disturbances from figure 2., concluding with suggestions for interventions. Representing only a few of countless possibilities, the interventions will begin with a functional approach, in keeping with the previous chapter on deconstructing emotion. While body- or movement psychotherapists work in a setting that is prepared for movement, providing open space, materials such as balls or ropes, and the therapist as a movement partner, readers working in a primarily verbal setting may need to modify the suggested interventions for their circumstances.

EMOTIONAL PROCESS STAGE 1: PHYSIOLOGICAL AND PSYCHOLOGICAL STABILITY

This stage Is concerned with the physiological and psychological antecedents of emotion (Linehan 1993, Bohus & Wolf-Arehult 2012). A person in a state of homeostasis is better able to deal with emotions. On a short term basis this might mean someone is well rested, has eaten a balanced diet, has a pleasant body temperature, is free of pain, and free of the influence of substances such as caffeine, drugs or alcohol. On a long term basis this could mean that someone has gathered positive biographical experiences, has a positive self-concept, lives in a social context open to emotional expression, etc.

Emotional disturbance type 1: Physiological and psychological vulnerability

A person may unwillingly or intentionally be subject to antecedents which influence their vulnerability to emotional dysregulation such as lack of sleep, low blood sugar, temperature extremes, physical pain, substance abuse, negative life events, a negative self-concept, cultural or social suppression of emotion etc. (Linehan 1993, Bohus & Wolf-Arehult 2012).

Possible interventions for stage 1: Self-care

- Functional movement training: the therapist suggests the patient do a self-check on basic needs, e.g. Bladder empty? Warm/cool enough? Clothing comfortable for movement? Is the room safe to move in without injury or property damage? Enough fresh air?
- Physical balance as a metaphor for psycho-physiological stability: A ball is played back and forth between partners in all manner of ways. In condition one, both partners stand stably

on the floor. In condition two one partner must fulfil the task while standing on a balance top, in condition three both partners stand on balance tops.
- Education regarding the influence of antecedents on emotion regulation
- Self-monitoring of antecedents such as sleep, diet, substance use etc. and their effects on emotion using worksheets or a journal
- General interventions to improve self-efficacy and self-care, such as
  - Self-efficacy: observing the influence of vigorous or calm movement on the circulatory system and practicing changing one's state of being
  - Self-care: Sitting on the floor, the therapist demonstrates repositioning one's legs with the hands, from straight to bent and back again. The movement is performed once roughly, once carefully. Then the patient is invited to try both variations and reflect on how she usually treats herself.

EMOTIONAL PROCESS STAGE 2. NEUTRAL SENSITIVITY

The ability or willingness of a person to perceive emotions is the focus of stage 2. If the antecedents support homeostasis and stability, it is more likely that a person will be in a position to perceive emotional events without being overwhelmed by them. Furthermore, a neutral, anatomically functional posture is important for a receptive state of awareness, which is not biased by the embodiment effects of an emotionally coloured posture, such as bowed down or overarched.

Emotional disturbance type 2. Hypersensitivity or hyposensitivity

In a state of physical or psychological vulnerability, a person may exhibit an extreme sensitivity to internal or external emotional cues, leading them to experience these more intensely, and to ascribe greater importance to these cues, Often the posture of these patients tends towards the expression of a particular emotion such as fear or sadness, enhancing the focus on these emotional qualities. Conversely, some patients may be unable or unwilling to perceive emotional cues or to find any importance in emotional experience, as can be observed in alexithymia or psychosomatic illness.

Possible interventions for stage 2: Normalizing sensitivity

- See interventions for stage 1.
- Functional movement training: Experimenting with a spiky massage ball, the patient can become aware of what qualities of movement with the ball are perceptible, and which are unpleasant or even harmful (intensity increasing or decreasing).
- Body awareness techniques to sensitize the person to signs of tension or limpness and to effects of change in posture and the positioning of various body parts.

- Subjective Units of Disturbance Scales (SUDS) (Wolpe 1969) can be interpreted on a movement level. For example, the patient can position herself along an imaginary scale in the room according to the degree of vulnerability she is experiencing at the moment. Her position on the scale can be compared to observable physical signs of distress, animated calm or detachment/apathy in the body and in movement.

EMOTIONAL PROCESS STAGE 3: ENCOUNTERING SITUATIONS

Embodiment research shows that emotion does not exist in an isolated, abstract state, but is always situated in a particular context (Wilson-Mendenhall et al. 2011). Seen in this light, emotion is not so much a characteristic of an individual as it is the state of a person-environment system (Rudolf 2013). Situations influence the experience, meaning attribution, expression, and action related to emotion. Awareness of the emotional connotation of a situation enables a person to generate or regulate emotions, by seeking out, avoiding or preparing for situations, depending upon these connotations (Gross & Thompson 2007). Healthy generation and regulation usually involves seeking positively connoted situations and avoiding negative ones (Damasio 1999). However, in the service of development or need fulfilment it may be necessary to occasionally enter unpleasant situations for a limited time, to achieve long term goals. This stage also entails the ability to test reality, and compare the connotations and attitudes gained from past experience with the present situation. Much psychotherapy involves mentally entering a situation in memory or recreating it in the therapeutic situation, in order to process a particular experience.

Emotional disturbance type 3: Dysfunctional avoidance or seeking of situations

Some pathologies, such as the borderline personality disorder, involve the inability to be aware of or take responsibility for the emotional effect of the situations that a person enters. Other dysfunctions may lead persons to knowingly enter a situation that has a damaging emotional effect, such as watching horror films when a person has experienced a traumatic event with similar visual input. By contrast, some patients, such as those suffering from anxiety, may avoid challenging or even just mildly stimulating situations, leading to a constriction of their functionality or quality of life. Amnesia can also be seen as an avoidance of the situation captured in particular memories.

Possible interventions for stage 3: Situational regulation

- Functional movement training: Experimenting with sitting on various chairs or other furniture, positions in the room and body shapes, the patient compares which "situations" are pleasant and which are unpleasant. The patient is then invited to modify situations and see how she can change its effect on her: dim the lights, rearrange the furniture, open the window, change body shapes etc. (fluctuation of spatial structuring)

- Using ropes, the patient creates two areas on the floor, one representing a pleasant situation, the other an unpleasant situation. The patient decides if she wishes to specify what situation is intended. For hesitant persons just the categories pleasant and unpleasant are sufficient to achieve the effect of the intervention. It may be of interest to observe how large the fields are in relation to one another, and whether the patient stood inside or outside the field as she created it. Subsequently the patient experiments with moving closer and farther away from the fields, entering and leaving the fields, noticing any changes in arousal. The therapist emphasizes the control that the patient has over the situation and her emotions.
- Using props or group participants, different types of situations can be created and modifications experimented with: crowded/spacious, related/isolated, exposed/hidden etc. or tasks developed: easy/difficult, satisfying/frustrating, boring/interesting
- Verbal analysis of the valence of situations in the daily life of the patient (unpleasant or pleasant) and reflection of the meaning of entering or avoiding these for their mental state prepare for transfer assignments in real life situational regulation (Gross & Thompson 2007, Bohus & Wolf-Arehult 2012).
- The trauma therapy technique of establishing resource situations (realistically or in the imagination) prior to confronting the patient with challenging and possibly burdensome emotional experiences belongs to this stage of the emotional process. In a body psychotherapy context, the resource situations would be movement-based.

EMOTIONAL PROCESS STAGE 4: INTEROCEPTION, AWARENESS

To be functionally aware of emotion, a person must be free to direct attention towards her body and be sensitive to stimuli originating inside of the body, but also be aware of the world around her, to adapt to positive or negative stimuli in the environment.

Emotional disturbance type 4: Dissociated or fixated Awareness

A disturbance in this phase can manifest itself through too much or too little attention to the body or the environment. Lack of attention may range from situational distraction to the extreme form of dissociation, a severe detachment from physical and emotional experience or permanent numbing of perception. In all cases of insufficient perception, the effect is a lack of response to stimuli. On the opposite side of the awareness continuum is the fixation on the body or the environment in a form of hypervigilance or selective perception. In this case, overreacting to all or only particular stimuli is characteristic.

Possible interventions for stage 4: Attention regulation

- Functional movement training: Turning away from and towards a chosen orientation point in space (attention in space: averting/directing). Practicing tension and release exercises (Tension flow bound and free).

- Mindfulness exercises which involve stillness and concentration on a single stimulus, such as the breath or a particular body part, and judgement-free observation of body sensations.
- Practicing distraction through activities that require a high level of concentration such as juggling, balancing a staff on the palm of the hand, challenging coordination tasks etc.
- Body awareness (Geuter & Schrauth 2001) and establishing trust in bodily signals by encouraging the patient to be aware of and follow the signals of the body, for example to change positions.
- In order to address dissociation, the patient may be asked to choose an object to represent the stimulus provoking an emotion. Beginning from a far distance, the patient is asked to slowly approach the object and notice at exactly what point the dissociation sets in. From this safe distance, the patient can engage in emotional awareness.
- "Dual awareness" (Rothschild 2002) involves the practice of oscillating back and forth between the awareness of two stimuli that are present at the same time, to the point of almost simultaneous awareness. Typical forms are the oscillation between
  – the awareness of self and the awareness of the environment
  – the awareness of a pleasant stimulus and the awareness of an unpleasant one
  – attention to sensory input from the present and attention to sensory memories from the past

EMOTIONAL PROCESS STAGE 5: TOLERANCE OF AROUSAL

Emotional qualities accompany the ups and downs of everyday life. The ability to thoroughly enjoy positive emotional situations is important for regeneration and survival (Rudolf 2013). The ability to tolerate negative emotions makes a person able to achieve long term goals or to deal with conflict and strains of everyday life and build intimate relationships (Linehan 1993).

Emotional disturbance type 5: Intolerance or exaggeration of emotion

Some patients strive to achieve a constant inner balance, in which normal emotional ups and downs are eliminated. Patients may experience emotional arousal as a threat that they cannot survive and react with defence mechanisms such as fight, flight or freeze. This applies not only to negative emotions but also to positive ones, for example when a patient fears they will be caught off guard if they allow themselves to relax and be happy, or when they believe positive feelings will be followed by a terrible "revenge of fate".
Alternatively, patients may get themselves dramatically worked up by increasing any arousal they sense with heavy breathing, hyperactivity and selective perception.

Possible interventions for stage 5: Desensitization and acceptance of emotion

- Functional movement training: playing with intensity reduction/increase
- Fractioned exposure: (movement factor time) the emotional activity is performed at first in short periods counteracted by a movement of opposite quality, then performed in increasingly longer intervals.

- Practice of abrupt and gradual transitions between two different activities.
- Practice of fluctuating and continuous movement
- Practice positively connoting arousal through movement Rituals in which movements are accompanied with validating sayings such as "I sense my vitality.", "I am growing with this challenge."
- In the case of patients who try to dissipate arousal through activity, it can be helpful to encourage awareness in stillness, in order to learn how to stand the arousal (Geuter & Schrauth 2001)

EMOTIONAL PROCESS STAGE 6: DIFFERENTIATION OF EMOTIONS

At this stage in a consciously experienced emotional process, the awareness of the person goes beyond being aroused, to the recognition of the emotion that she is experiencing. This requires a sufficient repertoire of emotions, knowledge of the differences between them and the inner and outer freedom to have the whole spectrum, without excluding certain emotions. It is this diversity that gives life a sense of richness, and enables a person to react adequately to inner and outer events.

Emotional disturbance type 6: Undifferentiated or secondary emotions

A person may experience a physical and mental arousal, but be unable to pinpoint which emotion they are experiencing. For this reason, the appropriate action and expression for the emotion may be blocked or they may act impulsively and cannot understand why, resulting in self-alienation (Rudolf 2013).

They may have difficulty recognizing more complex variations of emotion that do not fit with their stereotype expectations, for example passive aggression vs. active aggression, irony, vs. forthright expression, etc.

If certain emotions are excluded from the repertoire of the person or considered inappropriate or dangerous, according to their evaluation of the consequences of the present emotion, she may limit her repertoire and replace the present or primary emotion with a subsequent, secondary emotion. (Hauke & Dall'Occhio 2015, Gross &Thompson 2007). For example, a man feeling sadness, but whose gender identity denies him the expression of such a 'weak' emotion, may grow angry and then express this more acceptable, secondary emotion instead. Over many repetitions, the ability of this person to access sadness may be lost.

Possible interventions for stage 6: Differentiation ability

- Functional movement training: practice of the full range of abstract movement qualities, exploring which qualities are familiar and which are not.
- Tasks in which polarities of any sensory nature are differentiated (such as tactile: rough/smooth, acoustic: loud/quiet, visual: dark/light, motoric: fast/slow) prepares for the aware-

ness of different emotional states. It is less threatening to begin with materials and the external world and only later work with movement and interoception.
- Exploring the expression of all the basic emotions
- Exploring various possible expressions of a single emotion.
- Exploring the combinations of primary and secondary emotions that the patient is familiar with and singling out the primary emotions that they are least able to express, in preparation for the next stages.

EMOTIONAL PROCESS STAGE 7: INCREASING AROUSAL

This stage is concerned with the ability to sense an emotion, to stay with it and allow it to intensify on the threshold to expression, before changing the emotion through action. The amplitude of emotion a person can engage in determines their experience of vitality (Rudolf 2013).

Emotional disturbance type 7: limiting arousal

The tendency to limit the intensity of an emotion applies to all emotions, both positive and negative (Geuter & Schrauth 2006). It is often a result of ambivalence: the desire to fulfil a need and the fear, that this fulfilment may bring unwanted consequences with it.

Possible interventions for stage 7: Arousal regulation

- Functional movement training: Body and movement interventions on the theme of intensity, with the goal of clarifying the present degree of tolerance, and promoting an increase through experience and practice with variation in intensity and in stimuli (movement factor weight: withdrawing/engaging, low/high intensity).
- Using the embodiment principle, breathing patterns (Bloch 2006, Hauke & Dall'Occhio 2015), facial expressions (Ekman 2007), postures and gestures or full body movement associated with the expression of emotions facilitate the experience and intensification of emotional states bottom up – from the body to the mind.
- Using props or media such as music or pictures (real or imagined) to intensify the experience.
- Exploration of ambivalence: the patient is invited to explore in movement or role-play what the positive effect of allowing the emotion to intensify might be, and also explore their horror-phantasy of the disadvantages. Before continuing with the expression of the emotion, necessary skills to deal with or tolerate the disadvantages are facilitated.
- Focussing attention and facilitating congruent activity and "staying with" the arising emotion, rather than allowing the patient to counteract it.

EMOTIONAL PROCESS STAGE 8: EXPRESSION, ACTION, PHYSIOLOGICAL REACTIONS

Expression of emotion is necessary to discharge tension and arousal, to change a situation that is unsatisfactory, or to fully enjoy a positive situation. Furthermore, expression is elemental for

understanding oneself and being understood by others (Rudolf 2013). Expression enables social regulation and self-efficacy in a recursive process, in which the emotional expression may influence the social environment and change the situation that evoked the initial emotion (Gross & Thompson 2007). For example, a person feeling lonely may express sadness which causes another person to draw nearer and comfort them. This new situation might make the protagonist happy or afraid and the cycle begins again. Proficiency in emotional expression includes self-control and knowledge of display rules, so that the action or communication is strong enough to take effect, but without damaging side effects.

EMOTIONAL DISTURBANCE TYPE 8A: SOMATIZATION OR 8B: LOSS OF CONTROL/INADEQUATE ACTION

8a: Emotional processes occur whether or not the emotion is ever expressed (Winkielman et al. 2015). Physiological activation paired with a lack of discharge leads to somatization: the discharge and partial expression of the emotion through somatic symptoms such as coughing, tachycardia, pain etc. and over time leads to psychosomatic illnesses and even organ damage (Rudolf 2013).

8b: Related to somatization is actionism. Emotions held hostage in the body may be smuggled out in the disguise of excessive activity such as excessive or risky sports, reckless driving, sexual promiscuity and workaholism, all performed without realization of the emotional cause.

Alternatively, Emotions may be expressed with an extreme intensity that is dysfunctional and possibly out of control, causing mental, physical, social, or property damage. Included in this category are exaggerated emotions, in which the inner engagement is not congruent with the outer expression.

Possible interventions for stage 8a: Somatization

- Since somatization is the result of lack of awareness of emotion, going through the interventions suggested in stage 4 through 7 is applicable here.
- Exploring the somatic signals of various emotions
- Exploring the effects of the symptoms in social contexts, in order to discover the underlying needs that the symptom fulfils, for example the need for setting limits is fulfilled by having to interrupt a conversation by going to the toilet, coughing etc.

Possible interventions for stage 8b: Expression regulation

- Functional movement training: Practicing movement control through stopping and starting movement, and tension and release exercises (Tension flow: bound and free).
- Moving to appropriate music intensifies emotion, while the musical structure (verse/refrain, meter etc.) provides control.

- Containing, through group work, partner work or the therapist, allows the patient to concentrate on the release of expression while the partners provide safety. Containment can be provided visually by witnessing, verbally through instructions, tactile-kinaesthetically by touch or holding, structurally by rhythmic movement and time keeping, spatially by demarking boundaries for the space in which expression takes place.
- Finding movement metaphors for emotions (see Lakoff & Johnson 2003 for inspiration) and performing these with full attention, for example anger: striking something, sadness: dropping something slowly, fear: hiding (something), love: enclosing something etc.
- Enacting specific scenes from the past or present. The specificity enables a clear judgement of the appropriate type and dosage of expression.

EMOTIONAL PROCESS STAGE 9: DECREASING AROUSAL

The nature of emotions is change. Therefore, it is not possible to hold on to happiness, but sadness will not last forever either, a realization that makes negative feelings tolerable. If an emotion has fulfilled its purpose of evaluation, communication or action, it normally subsides, cleaning the slate of perception for the next stimulus.

Emotional disturbance type 9: Chronified expression, maintaining arousal

Rudolf (2013) proposes, that persons who cannot let go of a negative emotion are under the influence of a deep state of helplessness or frustration which has led to the conviction, that the unpleasant situation and its accompanying feelings will never change. They therefore express emotion, but do not generate action to change the situation, recreating the helplessness of the past. My clinical experience is, that patients whose suffering or needs have not been recognized by the social environment chronically express the unvalidated emotion.

In both cases, the connection between self-efficacy and emotion regulation is evident.

Alternatively, certain emotions may dominate over others, for example, everything is amusing, frightening, or shaming, to serve as a protection against change and (more) unwanted feelings.

Possible interventions for stage 9: Changing expression, letting go

- Functional movement training: practice with continuous and fluctuating movement qualities (spatial structuring – changeability and constancy) and initiation and termination (tension flow).
- Diverting sensory awareness away from emotions to elements of the environment, for example through the 5-4-3-2-1 mindfulness exercise (Dolan 1991).
- Reinstating self-efficacy through choice: the patient is offered various materials one at a time, and sorts them according to a chosen sensory quality (visual, tactile, etc.) into the categories 'pleasant' and 'unpleasant'.
- Activities involving communication and being understood through echoing or complementary movement.

- Exploring the purpose of the dysfunctional expression (Geuter & Schrauth 2006).
- Changing breathing patterns to an emphasis of exhalation reduces arousal on a physiological level, that by virtue of body feedback spreads to the psychological level.
- Activities that facilitate physical letting go, such as shaking, swinging, relaxing, being held or supported by others, holding and then deliberately releasing a medium (often causing a new cycle of a different emotion such as grief).

EMOTIONAL PROCESS STAGE 10: RELAXATION OR REBALANCE

When an emotion has fulfilled its purpose of evaluation, communication or action, it normally will subside, allowing mind and body to regenerate. This is achieved through relaxation, replenishment of expended energy or recovery of equilibrium and stability through countermovement (see interventions below).

Emotional disturbance type 10: Lack of relaxation/regeneration

The natural regeneration process may be limited by returning to 'business as usual' without enough rest, relief of residual tension, or stabilization. This places the person into a physical and mental disequilibrium (stage 1.).

Possible interventions for stage 10: Rebalance, relax, rest

- Functional movement training: countermovement helps to rebalance body and mind
  - Countermovement means that the opposite dynamic quality of the emotion expressed previously is used. For example, if the patient was expressing sadness with low intensity and small movements, the countermovement could use higher intensity and larger movements. Or, if the expression of fear involved fast movements travelling in space, the countermovement could use slow movements in one place.
- Relaxation techniques.
- The embodiment of replenishment can be experienced without side effects by drinking water.
- Simply resting, embedded in a context of reward for successful engagement in a task.

EMOTIONAL PROCESS STAGE 11: REFLECTION, TAKING LONG-TERM CONSEQUENCES

When the physiological side of the emotional process has returned to a neutral state, a person is in a good position to distance themselves mentally from the experience (Linehan 1993), and evaluate it for future reference. The goal would be to repeat positive experiences and change or avoid negative ones.

Emotional disturbance type 11: Lack of reflection, repetition of negative patterns

Patients who could not learn reflective behaviour in their childhood often lack the vocabulary to talk about emotion and usually do not reflect their emotional experiences of their own accord.

Patients who do reflect on their experiences are subject to the natural tendency to do so in such a way as to support fixed ideas of their worldview and self-concept. Epstein (1991) found that people tend to actively maintain the stability of their self-concept and theories of reality, as these enable them to make sense of their world and guide their behaviour. They therefore a) choose and shape situations, b) select information, and c) interpret information such as to support their subjective theories. Positive experiences are ambivalent to people with negative expectations, because they upset their familiar orientation for action, true to the motto "Better to live in a familiar hell than in an unfamiliar heaven."

Possible interventions for stage 11: Digesting experience

- Functional movement training is not appropriate for this stage, concerned with connecting with the semantic level.
- Finding words, developing a vocabulary for emotional experience.
- Addressing the ambivalence of positive new experiences supports the patients' ability to assimilate these.
- Alternating speaking and sensing the meaning of what was said in the body (Southwell 1990).
- Finding a movement or a posture to capture the insights gained through the emotional experience helps reflect on and also memorize this insight.
- Making time for reflection is modelled, supported by dialogue with others or various means of self-dialogue and documentation such as writing, drawing, creating installations, or taking pictures.
- Timelines that trace the progression of the emotional experience can be created with objects or a movement sequence, and then alternative courses of events explored.

After having suggested various interventions without a specific context in this segment, the final chapter will show how interventions can be implemented in the process of a specific case.

Case Study

The following case example demonstrates the use of the tension flow and shape flow principles for the expression of anger in a very reduced way, appropriate for the treatment of patients with complex trauma. Where applicable, the phase of the emotional process or the type of disturbance, as well as the Kestenberg movement elements used are noted in brackets.

Getting a grip on anger

Ms. Roth grew up with an alcoholic mother, and was subjected to ritualized satanic abuse in her childhood, initiated by her father. One of her main symptoms was the uncontrolled appearance and disappearance of her emotions (disturbance in phase 4) *and their intensity* (disturbance in Phase 8), *which led her to inhibit her emotions entirely* (disturbance in phase 7). *Early phases of therapy were concerned with creating trust in the therapist and developing self-care* (disturbance in phase 1). *This was achieved primarily through the careful observation of the physical signals of the patient by the therapist and amodal mirroring, in which activities matching the signalled needs were facilitated. In transfer assignments at home, Ms. Roth learned to limit her alcohol consumption, eat regular meals and heat her apartment adequately, which increased her physiological stability* (phase 1) *and lowered her hypersensitivity* (phase 2), *in preparation for work on emotions.*

One day in a session she spoke of her anger at her landlady, and it was clear, she was ready to explore her emotions. She had not been able to settle her problem because she was afraid that if she started showing any degree of anger, she would not be able to control herself und might smash everything in her reach to pieces. She didn't trust herself at all, but longed to do so. To generate an initial sense of self-trust, we warmed up with a movement game of doing functional movements briefly and stopping, focussing attention on Ms. Roths ability to precisely stop her movement in mid-air.

Next I asked Ms. Roth to find a counter-movement, a reminder of her positive resources, that was as different as possible from the expression of anger. Her chosen movements included breathing out, shaking her hands out in a downward direction and looking out the window to distract her attention (direction away from the body, reduced intensity, averting attention). *We agreed to use these movements for decreasing the emotion and rebalancing* (preparation for phase 9 & 10)*, should she express any anger later.*

Now we were ready to address the emotion at hand. I asked the patient if we could find a movement to act as a vehicle to express a tiny part of her anger. The patient was adamant, that the movement should not have anything to do with striking actions (free flow, abrupt)*, so I suggested we do something with pressing* (bound flow, gradual)*. After an exploration of pressing various media from my supply, such as stones, pillows, gym balls, massage balls, bubble paper, balloons, etc., Ms. Roth chose a sponge ball about the size of a tennis ball to work with. This was her creation of the "situation"* (phase 3) *in which her emotion would take shape. She had chosen a situation that she could control well visually and physically* (small amplitude, stationary, towards the body, isolated body part, gestural)*. At first she held the ball in her hand and contemplated the idea of possibly exerting pressure on it. She felt a little fear rising up in her, so I suggested she put the ball aside, which she did. Repeatedly Ms. Roth took the ball into her hand and laid it away* (phase 4, averting and directing attention, beginning and ending the movement). *She continued this procedure for five minutes, until it was tolerable for her to keep the ball in her hand* (phase 5).

Now we sought to find a way to differentiate the intensity of the pressure she exerted on the ball in various levels (phase 6). *I joined in the movement in order to maintain kinaesthetic empathy, which validated and contained the activity of the patient and enabled me to get a sense of the effect of the movement from the inside. On the first level, we held the ball in our open palms. On the second level, we lightly enclosed the ball with our fingers. The third level involved us raising the intensity of the pressure so that the ball was slightly deformed. At this point Ms. Roth took a break to put the ball away and assure herself that she could maintain control of the situation externally and internally. We practiced these three levels a while longer, until she expressed the wish to go further. The fourth level consisted of us raising the pressure so that the ball was definitely changed in shape. On level five, we used our maximum strength and the ball was crushed and hidden in our fists* (Phase 7, reducing and increasing intensity)*. At this stage Ms. Roth's jaw tensed up and pushed forward, she felt the semantic meaning of the movement arising and remarked "I sometimes wished I could make that landlady disappear, and now I just did!"*

After that we practiced moving up and down the five-level scale. It required discipline to go from level five through the other levels to level one and not to follow the automatic physiological reaction of jumping from level five directly to level one. This motor ability corresponds to the social skill of justified mistrust, needed for reconciliation processes: Rather than being too forgiving too soon, it may be safer to keep up a defensive guard and only let it down bit by bit, if the injurer proves herself trustworthy. Then we practiced abrupt jumps from one level to another, out of order, such as from two to five, or from three to one (gradual and abrupt transitions). *Finally, we associated various levels with situations in Ms. Roth's daily life: Which level was appropriate for a call to the employment agency? Which level was appropriate for a talk with her landlady?* (phase 8, spatial structure focussing in a direction)

Ms. Roth spent the final quarter hour of the session with her counter movements (phase 9 & 10), *exhaling to calm down, shaking out her hand in an easy-going rhythm to release the tension, and then looking out the window to change her attention focus. She checked out, whether the "expansive" movements (as far as the intensity was concerned) had triggered any reaction of fear or urges for self-punishment. Instead she was amazed at how powerful and good she felt. She realized that the controllability of the exercise had given her an unusual sense of trust in herself* (phase 11).

Beyond the individualized, process-oriented type of intervention just described, we may use the movement interventions described in this paper for group interventions and psychoeducational skill training. For the latter we teach the patients a wide selection of movement possibilities and then go into more depth with the modalities that represent their resources and challenges, as the patients wish.

Closing

Emotion involves bodily changes and serves the purpose of motivating need-specific action. Therefore, emotions should be addressed on the level of body movement, and not just verbally, during psychotherapeutic treatment. However, working with the body and movement requires training and experience. Besides obtaining further training for themselves, verbally trained therapists also have the option of cooperation with body/movement psychotherapists. Movement techniques enable therapists to facilitate emotion regulation on a functional level, before addressing the more challenging semantic level. Conceptualizing emotion as a bodily process gives therapists clear guidelines for diagnosis and for assisting their patients in "going with the flow" of emotions and (re)gaining their ability to evaluate, communicate, and take action, while fully experiencing their vitality and sensuality.

Literaturverzeichnis

Bloch, S. (2006). *The alba of emotions – managing emotions through breathing.* Santiago: Ediciones Ultramarinos PSE.

Bohus, M., & Wolf-Arehult, M. (2012). *Interaktives Skillstraining für Borderline-Patienten: Das Therapeutenmanual.* Stuttgart: Schattauer.

Damasio, A. (1999). *The feeling of what happens.* San Diego: Harcourt.

Dolan, Y. (1991). *Resolving Sexual Abuse.* New York: W. W. Norton.

Eberhard-Kaechele, M. (2009). Heimkehr zu sich selbst: Affektregulation und Selbstvertrauen nach Traumatisierung. In C. Moore, & U. Stammermann, *Bewegung aus dem Trauma: Traumazentrierte Tanz- und Bewegungspsychotherapie* (pp. 165-192). Stuttgart: Schattauer.

Eberhard-Kaechele, M. (2012). Bewegung aus dem Trauma: Bewährte tanztherapeutische Interventionen in der Arbeit mit Menschen mit Traumafolgestörungen. In H. Deimel (Ed.), *Brennpunkte der Sportwissenschaft. Facetten der Bewegungs- und Sporttherapie in Psychiatrie, Psychosomatik und Suchtbehandlung.* (pp. 34-56). Sankt Augustin: Akademia Verlag.

Eberhard-Kaechele, M. (2013). Wie das Kaninchen vor der Schlange: Körper- und Bewegungsinterventionen bei traumatisierten Menschen. In W. Wöller, *Trauma und Persönlichkeitsstörungen 2. Ausgabe* (pp. 483-502). Stuttgart: Schattauer.

Ekman, P. (2007). *Emotions Revealed, Second Edition: Recognizing Faces and Feelings to Improve Communication and Emotional Life.* New York: Henry Holt.

Geuter, U. (2006). Körperpsychotherapie - Der körperbezogene Ansatz im neueren wissenschaftlichen Diskurs inder Psychotherapie Teil 2. *Psychotherapeutenjournal, 3*, pp. 258-264.

Geuter, U., & Schrauth, N. (2001). Emotionen und Emotionsabwehr als Körperprozess. *Psychotherapie Forum*(9), pp. 4-19.

Geuter, U., & Schrauth, N. (2006). Die Rolle des Körpers bei seelischen Abwehrprozessen – Körperpsychotherapie und Emotionstheorie. In G. Marlock, & H. Weiss, *Handbuch der Körperpsychotherapie* (pp. 554-562). Stuttgart: Schattauer.

Gross, J. J. (Ed.). (2015). *Handbook of Emotion Regulation* (zweite ed.). New York: Guilford.

Gross, J., & Thompson, R. (2007). Emotion regulation: Conceptual foundations. In J. Gross, *Handbook of emotion regulation* (pp. 3-24). New York: Guilford Press.

Hauke, G., & Dall'Occhio, M. (2015). *Emotionale Aktivierungstherapie.* Stuttgart: Schattauer.

Holodynski, M., & Oerter, R. (2012). Emotion. In W. Schneider, & U. Lindenberger, *Entwicklungspsychologie* (7. überarbeitete ed.). Weinheim: Beltz.

Hüther, G. (2005). *Die Macht der inneren Bilder.* Göttingen: Vandenhoeck & Ruprecht.

In Albon, T. (2013). *Emotionsregulation und psychische Störungen im Kindes- und Jugendalter.* Stuttgart: Kohlhammer.

Kestenberg Amighi, J., Loman, S., Lewis, P., & Sossin, K. (1999). *The Meaning of Movement: Development and Clinical Perspectives of the Kestenberg Movement Profile.* New York: Brunner-Routledge.

Kestenberg, J. (1967, April). The Role of Movement Patterns in Development I. *Psychoanalytic Quarterly*.

Kestenberg, J. S. (1975). *Children and Parents.* New York: Aronson.

Laban, R. v. (1950/2003). *Die Kunst der Bewegung* (3 ed.). Wilhelmshaven: Florian Noetzel. Erstveröffentlichung: The Mastery of Movement on the Stage, London.

Lakoff, G., & Johnson, M. (2003). *Metaphors we live by.* Chicago: University of Chicago Press.

Le Doux, J. (1999). *The Emotional Brain.* London: Orion.

Linehan, M. (1993). *Cognitive-behavioral treatment of borderline personality disorder.* New York: Guilford.

Niedenthal, P., Barsalou, L., Winkielman, P., Krauth-Gruber, S., & Ric, F. (2005). Embodiment in Attitudes, Social Perception, and Emotion. *Personality and Social Psychology Review, 9*(3), pp. 184-211.

Peichl, J. (2014). *Innere Kritiker, Verfolger und Zerstörer: Ein Praxishandbuch für die Arbeit mit Täterintrojekten.* Stuttgart: Klett-Cotta.

Rothschild, B. (2002). *The Body Remembers - The Psychophysiology of Trauma and Trauma Treatment.* New York: W.W. Norton.

Rudolf, G. (2013). Emotion. In G. Rudolf, & P. Henningsen, *Psychotherapeutische Medizin und Psychosomatik* (7. überarbeitete ed., pp. 92-99). Stuttgart: Thieme.

Russel, J. (2003). Core Affect and the Psychological Construction of Emotion. *Psychological Review, 110*(1), pp. 145-172.

Seiferling, N., Turgut, S., & Lozo, L. (2014). Emotionsregulation. In M. Wirtz, *Dorsch – Lexikon der Psychologie* (p. 465). Bern: Hans Huber.

Southwell, C. (1990). Biodynamische Psychologie. In J. Rowan, & W. Dryden (Eds.), *Neue Entwicklungen in der Psychotherapie* (pp. 198-221). Oldenburg: Transform.

Stern, D. (1992). *The Interpersonal World of the Infant.* New York: Basic Books.

Stern, D. (2010). *Forms of Vitality.* New York: Oxford University Press.

van der Kolk, B. (2006). Clinical Implications of Neuroscience Research in PTSD. *Annals of the New York Academy of Sciences, 1071*, pp. 277-293.

Wilson-Mendenhall, C., Feldman Barrett, L., Simmons, W., & Barsalou, L. (2011). Grounding Emotion in situated conceptualization. *Neuropsychologia, 49*, pp. 1105-1127.

Winkielman, P., NIedenthal, P., Wielgosz, J., Eelen, J., & Kavanagh, L. (2015). Embodiment of Cognition and Emotion. In M. Mikulincer, & P. Shaver (Eds.), *APA Handbook of Personality and Social Psychology: Vol. 1. Attitudes and Social Cognition* (pp. 151-175). Washington D.C.: American Psychological Association.

Wolpe, J. (1969). *The Practice of Behavior Therapy.* New York: Pergamon Press.

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