

Towards a bio-psycho-social model of emotion

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Introduction

In my book about communication skills for Dutch care workers (Van Alphen, 2015), I present a bio-psycho-social model of emotion. This subject in a book about communication may seem surprising, but it is my contention that the difference between a good and an excellent communicator is that the latter is fully aware of the impact of the emotions his conversational partner is experiencing, especially during the communication process. In this article I have translated and slightly adjusted the theoretical section from my book to stimulate discussion on a broader, integrated model of emotion.

Most emotion theories approach the subject from a particular point of departure. They concentrate on either the biology of emotion, the psychology of emotion or the social aspect of emotion. Since the turn of the century, a bio-psycho-social paradigm (Kiesler, 1999) has become ever more popular. The basic principle is that human experience occurs as an interaction between three areas:

- Biological;
- psychological; and
- social.

Both positive and negative experiences are the result of changes on one or more of these areas. However, the interrelatedness of these areas makes that any change in one area automatically induces change in the other two areas. Experience therefore is the result of the interaction between these various aspects. I will attempt to introduce each of these areas separately and afterwards deal with the interaction. To begin:

Biology.

Biology and basic responses

Let's begin with the brain. Specifically a little organ in the midbrain called the amygdala. LeDoux (1996) discovered the role of the amygdala in how we process a new situation, leading to a dual path: A quick and dirty route versus a slow and thorough route. To illustrate with an example: Strolling in the garden in the early evening you suddenly see a snake. You catch a fright and direct all your attention to this snake. Biologically it is the amygdala that have interpreted the signal and sent an alarm. You don't need to think about it, it happens automatically and your body is instantly brought into a state of preparedness. Corticosteroids (so-called stress hormones) are released, in turn causing adrenaline to flow into your bloodstream, causing your heart rate to increase, your breathing to speed up, energy to be freed up via your liver. All your resources are activated and energy sent to your muscles so that you are ready to deal with the situation. This is the so-called *fight-flight-freeze* reflex. From an evolutionary standpoint very sensible: You are ready to fight your way out of the situation, run away from it or to freeze in your footsteps. It increases your chance of survival. From your human evolution you 'know' that snakes don't see too well and that your best chance for survival is to freeze. If you stand very still, chances are that the snake won't even see you and therefore won't bite you. In the meantime the information has also been passed on to the neocortex, the slow and thorough processing kicks in and the finer details become noticeable. Aha. It isn't a snake, but the garden hose! If it were to bite you (which it can't) there wouldn't be any adverse effects. The alarm signal is withdrawn, your heart rate returns to normal, you breathe a little more comfortably and your attention can relax.

The amygdala thereby have an effect on our emotional experience. Research on the limbic system in the brain, specifically the size of the caudate nucleus, implies a relationship with how anxiously people are inclined to be generally (Delgado, Stenger, & Fiez, 2004). The amygdala and caudate nucleus are presented by way of example, as there is a wealth of research on how physiological processes affect our emotions. Also our genetic makeup affects our propensity to experience emotion, just as it has a role in temperament. To sum up: Biology plays a role in the how and what of emotional experience.

Basic responses

It is obvious that newly-born babies experience something. As we cannot ask them about their experiences, we deduce that from their behaviour. From many sources, such as research in the 1950's by Tomkins (1995), in the 1970's by Ekman (1980) and many others inspired by them, it seems that certain bodily responses are displayed uniformly by all babies, irrespective of culture. This leads to the deduction that certain basic responses and reflexes are biologically wired: They are innate, not learnt. Some of these disappear as the baby grows up, others remain throughout the entire lifetime.

From a very young age babies are able to imitate facial expressions, according to Field en Walden (1982) already from some minutes after birth. It concerns very basic imitations, which do not seem to be committed to memory. From an age of about 10 months, imitation seems to be accompanied by some form of consciousness (Legerstee & Markova, 2008). All this kind of research raises the question about when a facial expression is nothing more than that, or the reflection of an inner emotional experience. We will avoid that discussion. What we do know is that adult facial expression to some degree reflects the emotion being experienced internally. To some degree, as we are socialized into rules for appropriate display of emotion. In this paragraph we are not yet looking at the *emotions* people experience, but at the basic physiological expressions, which are innate. To emphasize this, I use the term *basic responses* (and not the confusing term affect programmes, which seems to imply a psychological experience).

Jargon & Definition

Basic response: Biological. When a basic response is triggered (by a definable stimulus) a mechanism is activated which leads to a chain of biochemical and physiological events that are felt (experienced) physically.

Point of departure is that these basic responses help us to react appropriately to situations (by directing our attention to what is important, for example) and to elicit the appropriate attention from our caregivers. Tomkins (1995) describes nine of these basic responses which he explains as directing the learning processes and by extension all human experience. Ranging from very basic in the baby to a complex interaction between biology and psychological meaning in the adult. His theory in brief is that every basic response has a certain 'colour' and when triggered it colours experience to a certain intensity. Through learning processes we associate these with situations, whereby we give meaning to those situations. In this sense the basic responses tell us physically what is important and to what we should devote our current attention.



FIGURE 1. BASIC RESPONSE 'DISTRESS' (© 2014 W. VAN HEERDEN)

The biological purpose is logical: It is important that we can estimate what requires our attention and what doesn't. From an evolutionary point of view very adaptive: If nothing would draw our attention the first lion would quite easily enjoy us as his meal. In our current society to a broader degree, it's about more than only physical survival. In a complex world we constantly need to divide our attention between various urgent things. That selection process requires consciousness and Tomkins suggests that nothing enters our consciousness, nothing becomes urgent, until it is first amplified by a biological response. In brief: Something happens in the body that serves as signal. Tomkins identifies nine such innate physical responses, present in the newly-born and which aren't much different in adults, see table 1. As these responses are biological, they always operate whenever triggered, irrespective whether the person is aware of them or not.

TABLE 1. THE NINE BASIC RESPONSES ACCORDING TO TOMKINS

Category	Colour	Expression via the body
Negative	Distress – anguish	Sobbing, crying, eyebrows arched up, tears, red cheeks, flailing arms and legs. See figure 1.
	Distaste	Neck forward and head down, lower lip and tongue protruded (as when spitting out something that tastes foul).
	Dissmell	Upper lip drawn upward, nose wrinkled and head drawn back (as in avoiding something that smells bad).
	Anger – rage	General muscular tension, clenched jaws or screaming, eyebrows down, red face, increased heart rate and breathing (fight-response).
	Fear – terror	Eyes wide (and tracking what causes fear), lower eyelids tensed; eyebrows raised and drawn together; face pale, increased heart rate and breathing (flight-freeze response).
	Shame – humiliation	Looks away, the neck muscles relax so that the head falls, turning away or hiding, blushing.
Neutral	Surprise – startle	Blinking of the eyes, eyebrows up, eyes wide, the 'oh!' effect. See figure 3.
Positive	Interest – excitement	Tracking with the eyes, gazing, eyebrows down, slightly raised heartbeat and breathing.
	Enjoyment – joy	Relaxed face, mouth (slightly) open, smiling, gleaming eyes, laughing. See figure 4.

Some of these basic responses may be recognized in figures 1, 3 and 4. A remark concerning the names of the basic responses in the table: Some of them are named after adult emotions. That does not imply that babies experience these basic responses as adults do when they experience that emotion. It is the *expression* that coincides with the typical expression when adults experience that emotion.

Experience therefore isn't solely between the ears, but a complex game between biological (biochemical and physiological), psychological and social factors. It is only once we become aware that a basic response has been triggered (which requires some degree of consciousness) and depending on the intensity and the context, before it will get meaning in what Tomkins calls a script. Such scripts can be very basic, yet as development progresses they become more complex when both scripts and basic responses are combined into new scripts. This is a largely unconscious learning process, of which the basic responses are the biological building blocks, see figure 2. Scripts enable the human being to react appropriately (i.e. as learnt) and quickly in almost every known situation, without requiring much energy from the thinking apparatus. Very adaptive from an evolutionary standpoint: This frees up resources to pay attention to other stimuli. To summarize: Scripts are the building blocks of experiencing and thereby the primary motivator for behaviour.

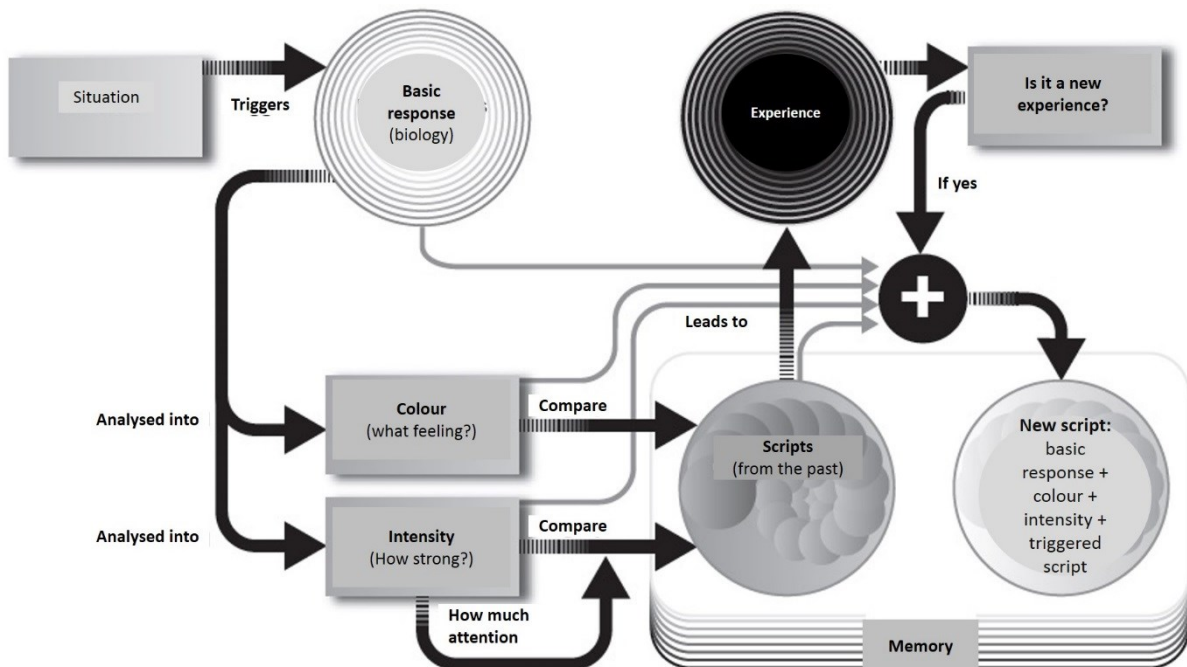


FIGURE 2 BASIC RESPONSES AND EXPERIENCE (© 2014 P. HOUTEKAMER)

The basic responses can be divided into three broad categories, depending on how they are experienced: Two positive, six negative and one neutral. It is only after a basic response has been triggered that a situation actually catches our attention: They 'load' it so as to motivate us to do something with that situation. And in the same manner as an actual situation 'does something with you', the same goes for memories. They too are loaded by the basic responses they trigger in us. By the intensity of the response we know what is important and what deserves our attention. This is why they are the primary motivator for learning, as we base future choices and behaviour on what they brought about in us on previous occasions. Tomkins says that all behaviour is motivated by the urge to increase positive experience and reduce negative experience and it is this principle that also drives learning in a social context. It boils down to that which we become aware of in a (social) situation, has been triggered by a basic response (biology), leading to

A situation is only noticed after a basic response has been triggered

experiencing a feeling (physiological). This feeling is given meaning from the individual's history (library of scripts) leading to an (emotional) experience (psychological).

About the individual basic responses: Probably the most primary is surprise, or in its more intense form, the startle response. This is clearly to draw our attention to something new or to an important change in the current situation. We transfer our attention from what we were doing to this new stimulus. It is most visible in the eyes, the raised eyebrows and the open mouth. Also adults display a similar facial expression. Even when repressed it may be noticed by a slightly raised eyebrow (of one or both eyes).



FIGURE 3. BASIC RESPONSE 'SURPRISE' (© 2014 W VAN HEERDEN)

The difference between interest and surprise is subtle: Where surprise captures the attention, interest holds the attention. Surprise is short-lived, a kind of reset button. When this flows over into interest, the eyes remain wide and the interesting stimulus is tracked. The major difference in facial expression is that the mouth relaxes.

Surprise captures the attention, interest holds it

The four negative basic responses that are most easily recognized (both in adults and in children) are fear, anger, distaste and dissmell. With fear the wide eyes and the wrinkled forehead are the give-away and with anger the lowered eyebrows. Distaste, as the name implies, renders a facial expression as when food that in first instance looks good is eaten, but found to taste bad. Dismell is the same, except that it is as food which smells bad and isn't actually eaten: The turned up nose is a distancing from this bad smelling (and therefore to be avoided) substance.



FIGURE 4. BASIC RESPONSE 'JOY' (© 2014 W. VAN HEERDEN)

The basic response joy is usually easy to recognize due to the smile and the generally positive appearance. The most difficult is the basic response shame, especially as it is difficult for us not to connect it to the adult *emotion* shame. A better name would be the interruption of positive experience. It is not possible to forever find a new stimulus interesting, nor will something that gives us joy keep doing that into eternity. Something (biochemical and physiological) needs to interrupt that stream. This means turning away from the stimulus, the relaxation of the muscles in the neck, so that the stimulus is no longer the centre of attention. It is pertinently not so that when an adult looks away or lets his head drop due to his neck muscles relaxing that we can deduce that he is feeling ashamed. Take eye contact to illustrate: If you didn't regularly break eye contact whilst speaking with another person, it would lead to staring. Ultimately either or both of you is going to feel uncomfortable. The natural making and breaking of eye contact is a perfect example of the *basic response* shame regulating behaviour so that an uncomfortable emotion is avoided. However, when you catch a young child doing something he shouldn't be, he will tend to hide, literally or figuratively by diving behind his hands. The purpose of hiding is to not see what is causing the bad feeling, like an ostrich: If I cannot see it, it isn't there.

A basic response is not an emotion

To repeat: Do not see the basic responses as emotions. What is true is that by recognizing the basic responses you can make a better *estimation* of the emotions your conversational partner is experiencing. Remember though, that the display of emotions is a cultural phenomenon. So although we all have the culturally independent biology and physiology *with which* to express emotion, how we actually *give* expression to what we are feeling internally is bound by all kinds of social and cultural norms. For example: In the Japanese culture it is not done to let another lose face. So even when you are seething on the inside, you will keep up a good face and smile so as not to affront the other. The trained observational listener will however see the other cues behind the smile and with his knowledge of cultural differences still make a better estimation of the internal state of his conversational partner. To repeat again: the anger in the example above is an *emotion*. The smile is a physiological/biological response. Emotions are however more than the physiological and biochemical responses that give us the ability to experience and express emotions. Emotion is the subject of a future paragraph, first another biological phenomenon which can explain why we feel our emotions physically.

Neuropeptides

Research initiated by the late medical doctor Candace Pert ascribes an important role in emotional experience to small substances called neuropeptides (Pert, 1997). She named them the *molecules of emotion*. They are not only found in the brain, but are even produced by ordinary body cells. More than 100 different types have been discovered in the brain alone. These neuropeptides are released whenever an emotion is experienced and influence *at cell level* how emotions are physically felt. It seems that the hypothalamus is partially responsible for the release of neuropeptides, but that they are also released via the 'memory' of individual body cells.

Neuropeptides are 'the molecules of emotion' and are even produced by ordinary body cells

The neuropeptides attach themselves to receptors on the cell wall, whereby certain nutrients and other substances are able to enter and leave the cell (or are blocked). This means the experience of emotion affects the physiology at cellular level! It also gives an explanation why we feel emotions physically. The direction of causality is a still unanswered question: Do the emotions cause the release of neuropeptides or is it the other way around: Because neuropeptides are released we experience a physical feeling that leads to an emotional experience?

Paragraph summary

Basic responses may be seen as the physical (i.e. physiological and biochemical) building blocks of experience. By causing certain reactions in our bodies, we are motivated towards seeking positive experience and avoiding negative ones. Tomkins (1995) distinguishes nine of these basic responses of which two are positive, one neutral and the remaining six negative. Via learning processes we unconsciously associate these physiological reactions, the intensity to which they are activated and the context wherein they are triggered into so-called scripts. These scripts become ever more complex and enable us to experience situations. Thereby they are the primary motivators of behaviour. Neuropeptides give a possible explanation to why we experience emotions physically. The care worker who recognizes the basic responses in the facial expression of his conversational partner is better able to estimate which emotions are being experienced.

Learning processes

The term has already been dropped in the previous paragraph: Learning processes in which new scripts are created by associating situation and experience. This process is often called *emotional learning*. The technical term is classical conditioning, of which more anon. First I need to explain what the relevance is of learning processes when dealing with *conversational skills*. All our conversational skills and those of our clients were learnt somewhere, sometime in the past. By understanding how they were acquired we can also see how the ineffective strategies can be unlearned and replaced by more functional strategies. Furthermore, the same learning processes play an important role in the experience of emotion, which is the subject of the next paragraph. In order to apply observational listening you will need to develop an eye for these processes and how they influence emotional experience in your clients.

Basic learning processes may be divided into three global theories, which overlap each other and in which the word conditioning plays a key role. Conditioning can be translated into ordinary English as attaching a value or meaning to something.

The distinguishing element in classical conditioning is that a (in first instance) neutral stimulus (or situation) is linked to another stimulus which elicits a certain reaction. Pavlov demonstrated this principle with his experiments with dogs. Ringing a bell, for example, has a neutral meaning. When you ring the bell every time just before feeding, the dog starts seeing the bell as a predictor. When the bell rings, he can expect that

food will follow. Classical conditioning goes a step further: The dog starts drooling when the bell rings, *irrespective whether food follows or not*. The bell therefore now elicits a new response (drooling) which it didn't do previously. An extra meaning has been assigned to the bell: It has been conditioned to cause drooling.

Jargon & Definition
Stimulus: An object or situation that elicits a certain reaction.
Response: The reaction to the presentation of the stimulus.
Neutral stimulus: An object or situation that only draws out reactions that are fitting with that stimulus.
Conditioned stimulus: An object or situation that elicits a learned response in addition to that which is fitting with the stimulus.
Classical conditioning: An in first instance neutral stimulus is associated with another stimulus, whereby an additional meaning is given to the neutral stimulus, so that it also evokes the response to the stimulus with which it is now associated.

That the same process plays a role in humans may be illustrated by several examples, of which two:

- Often heroin addicts use their drugs in the toilet stalls when they go out at night. Even after kicking the habit, they continue to experience an urge to use whenever they use a public toilet facility. A toilet stall will not give the non-drug-using person the urge to use drugs. In that sense it is a neutral stimulus, see also figure 5. The ex-addict is dealing with an association due to continued drug-usage in the stall, it has gained an extra meaning. The toilet stall has become a conditioned stimulus.

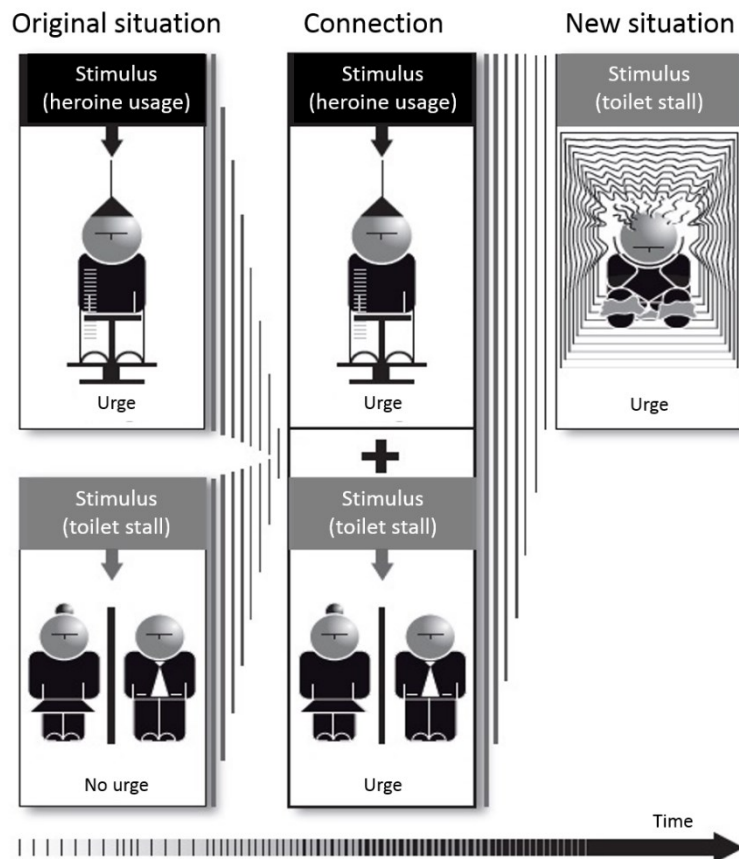


FIGURE 5 CLASSICAL CONDITIONING (© 2014 P. HOUTEKAMER)

- A bedwetting alarm is used to treat enuresis. It is placed under the sleeping child and every time the child wets himself, the alarm is activated via a moisture sensor, causing the child to wake up. The goal is that the child makes an association between pressure on the bladder (which it ignores at the moment) and waking up. After a while the child will start waking up because of the pressure on the bladder (instead of the alarm). He is now able to go to the toilet without wetting the bed or being woken up by the alarm.

Classical conditioning explains how bodily sensations are associated with one another and to the situations which evoke these sensations. In this manner situations start eliciting a bodily response, a feeling, giving the situation a meaning.

Where classical conditioning makes a connection between two simultaneous stimuli, operant conditioning does that for behaviour and its consequence. These theories are from the behaviourists, of which Skinner, Watson and Thorndike are the most well-known. It's still about an association, this time between a specific act and what that act's consequences are: A cause-effect relationship. When a specific behaviour elicits positive consequences, we tend to repeat that behaviour to get more of those positive consequences. Similarly when the consequences are negative, we avoid repeating the behaviour to avoid experiencing more of those negative results, see figure 6.

Operant conditioning is due to the consequences of behaviour

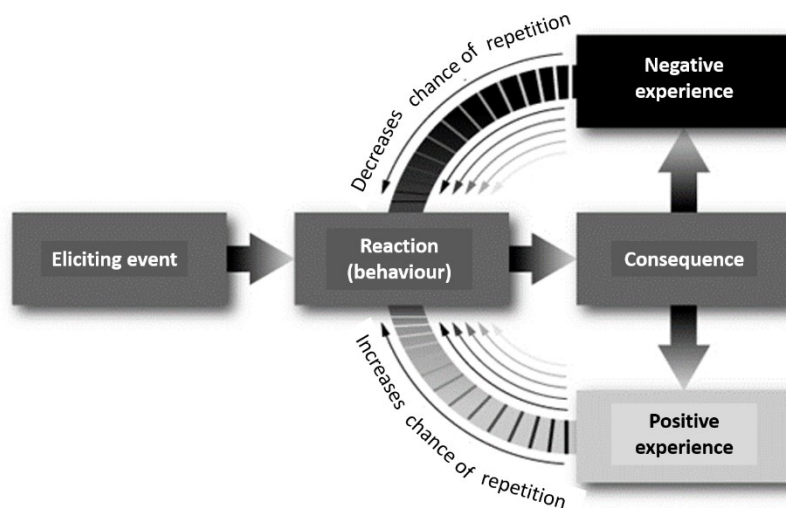


FIGURE 6 OPERANT CONDITIONING (© 2014 P. HOUTEKAMER)

These theories are also derived from animal experiments and can be applied to human behaviour too. The process begins with an eliciting event, some stimulus (situation) that draws out a response. This response is however behaviour, which has an effect on the environment. It is a basic psychological principle that behaviour draws out behaviour (or: Every action causes a reaction). So the response does something with the (social) environment, causing a reaction. This reaction is the consequence of the behaviour and this consequence becomes the new stimulus: If it found to be positive, the chance of repetition will increase.

Jargon & Definition	
Operant conditioning:	A learning process whereby behavior that is positively reinforced will be executed more frequently and that which is negatively reinforced, less frequently until it eventually extinguishes.
Reinforcement:	The consequence (of behavior) that is found to be pleasant (reward or the withholding of punishment) or unpleasant (punishment or the withholding of reward).
Extrinsic reward:	The reward is from outside, it is the (social) environment that rewards the behavior.
Intrinsic reward:	The reward is internal, the behaviour gives the person a pleasant feeling, not because of an extrinsic reward.

For example: A child that notices that he gets what he wants if he screams loud enough, will scream whenever he wants something. The consequence of his screaming is that his parents give in to his demands, which is a positive consequence for him. The opposite happens when the parent sneers ‘*Don’t be so stupid!*’ every time the child shows initiative. The child will show ever less initiative and eventually not even bother. Obviously, this learning process only operates when the consequence is linked to the behaviour. It will therefore need to follow shortly after the behaviour in order for the association to be made. It is however the consequence that reinforces and the reinforcement can be implemented in one of four ways, see table 2:

TABLE 2 REINFORCEMENT STRATEGIES

	Positive consequence	Negative consequence
Reward	Give	Abstain from giving
Punishment	Abstain from giving	Give

Examples of giving a reward (screaming child) or punishment (sneering parent) have already been given. When you abstain from punishing it means that negative consequences will not appear if you behave in a certain way. Regularly taking your medication means that uncomfortable symptoms won’t manifest themselves. If you tidy up your room, your mother won’t complain (or ground you). However, when a reward is withheld, it means that you *don’t receive* something you do want because of something you do. When you don’t pay any attention to your appearance (or drink too much alcohol at a party), then your chance of successfully chatting up that good-looking guy or girl is lessened. There is a subtle difference between giving a punishment and withholding reward: The first requires an *active* role by another person, whereas when a reward is withheld it is only the receiver who acts.

What you should know is that rewarding behaviour is the most effective strategy, followed by withholding a reward or punishment and the least effective strategy is punishment. Society generally hasn’t caught up with this fact and still uses punishment as the preferential way to deal with unwanted behaviour. Restorative practices are an alternative, which can for example be successfully applied in secondary schools (Van Alphen, 2012).

Punishment is the least effective way to behavioural change

You may think that behaviour that is consistently reinforced will be programmed the most deeply. This is however not so: As soon as the behaviour is no longer reinforced the behaviour will extinguish relatively quickly. It is especially when behaviour is reinforced every so now and then that it will remain, even long after it is no longer reinforced. A child that whines and only gets his way every so now and then will continue to whine, even if his parents no longer give in to his whining. This as he never knows when the strategy will pay off – he keeps trying just in case it will pay off this time. Gambling and lotteries work on exactly the

same principle: By regularly (though still at random) giving gamblers a (usually small) prize. That is why gambling can be so addictive!

There is also a difference between an extrinsic and an intrinsic reward. When it is extrinsic, it is the environment that rewards, for example when a child tidies up his room for a whole week, pizza is ordered. He is then tidying up because he wants the pizza. The reward doesn't have to be material either: Also when you do something for another's praise or appreciation, the reward is extrinsic. Intrinsic rewards come from inside the person, behaviour is executed because it gives a good feeling. When the child realizes by himself that he actually likes living in a tidy room, he no longer needs to be rewarded extrinsically. In fact, when you reward him extrinsically for something that is already intrinsically rewarding, the intrinsic reward decreases: He will find it *less pleasant* to tidy up his room.

Behaviour with intrinsic rewards endures best

Stable behavioural change has the best chance to endure when the rewards are intrinsic. You cannot *dictate* that the child should enjoy something, the reward is then laid on from the outside and is therefore extrinsic! The chances are this strategy will backfire, just as begging does: '*Isn't it nice to ...?*' The child needs to *discover for himself* that certain behaviour is pleasant for him, only then is the reward intrinsic.

The third basic learning principle is Bandura's (1977) and is called social learning. Where in operant conditioning the rewards are experienced by the person themselves, with social learning it is done vicariously, i.e. via others. When you see another doing something and being rewarded for it (intrinsically or extrinsically), you can choose to try out the same behaviour.

We imitate others' behaviour

Research on mirror neurons (Cook, Dickinson, & Heyes, 2012) partially explains the process on a biological level. Mirror neurons are brain cells in the motor cortex (that part of the brain that directs motion), which are activated when observing another's action. It is like these brain cells are already practising executing the movement so that the person can execute it independently later.

Where can you recognize this social learning process? Most of our social skills we didn't discover by trial and error – we picked them up from important others, such as caregivers. *Social referencing* is a good example: In a new or ambiguous situation we observe how others behave. Children tend to look at their primary caregiver and then imitate their reaction. For example when a stranger rings the doorbell they will observe and copy mother's reaction to this stranger. Also in the world of advertising this principle is often used: Why is a star asked to use a certain product in a film or commercial? Simply because people generally would like to get the same attention a star does. By copying their behaviour (i.e. using a certain product) you get the feeling to be one step closer to this dream.

Cognitive approaches

The cognitive approach can be ascribed to people such as Beck and Ellis. Point of departure is that behaviour isn't entirely unconscious and that the way we think has a large influence. In Ellis' Rational Emotive Therapy (RET) for example, people are said to ascribe consequences directly to the situation (Ellis calls this an activating event), whereas it is not the actual situation, but how we interpret it that determines how we experience it, see figure 7. The interpretation is dependent on our beliefs. If I make a mistake and experience that as catastrophic, it isn't the mistake but my belief that only perfect work is good enough that gives me this feeling. In the Rational Emotive Therapy these beliefs are challenged and replaced by more

Not the actual situation, but how we think about it directs our experience

effective ones. Is it true that nothing less than perfect work is satisfactory? Or is it better to see mistakes as human and something from which you can learn?

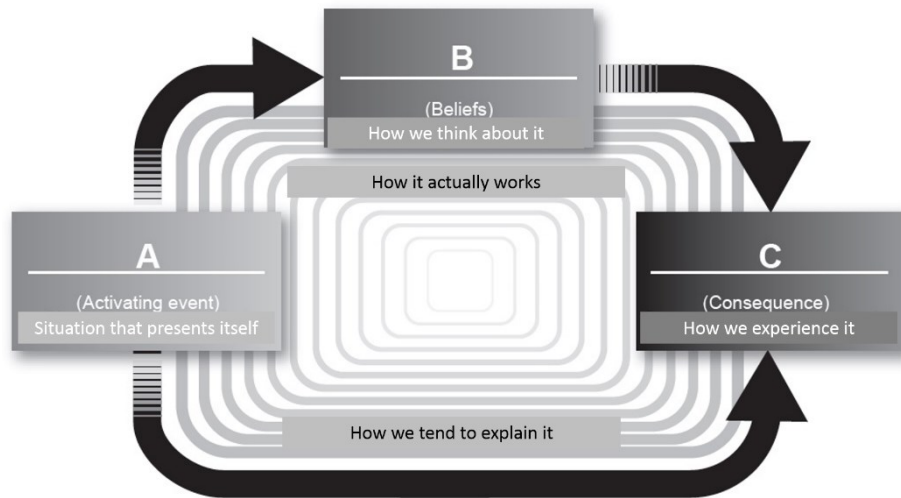


FIGURE 7 ABC-MODEL OF THE RATIONAL-EMOTIVE-THERAPY (RET) (© 2014 P. HOUTEKAMER)

Beck is seen as the founding father of cognitive therapy and he places his emphasis on so-called schemas, which are similar to Ellis' beliefs. A schema is a sort of framework in which our deepest beliefs are grounded. We use them to give meaning to the world around us and to what happens in our lives. Our irrational ideas come from these deep-rooted beliefs. By changing these schemas we can look differently at the world and have more functional thoughts.

The cognitive approach boils down to thoughts and beliefs. That people behave less rationally than may be expected by logic is however quite apparent, see how we treat losses differently to gains (Kahneman & Tversky, 1979), for example. According to the behavioural approach because irrational behaviour gives us short-term advantages (i.e. it is reinforced). According to the cognitive approach because of irrational beliefs. Both see emotions as a side-effect. The question is whether that is true ... But that is a question for the next paragraph.

First how knowledge of these learning processes help observational listening, starting with classical conditioning. Your clients will associate the place where you have your conversations with the feelings they undergo there. That by no means implies that you aren't allowed to deal with difficult matters! It means that when clients feel that they are heard, taken seriously and respected the work room will be associated with a safe, trustworthy place. This already changes the way they enter the room.

From the operant point of view, your reaction on what the client does or says by definition is a consequence for the client. So you are continually reinforcing (both positively and negatively) your clients in what they say. When you positively reinforce an openness in discussing difficult matters, clients will tend to delve deeper. In particular your stimulating behaviour (nodding, saying 'uhhu', etcetera) is rewarding.

Then social learning: Whether you like the idea or not, implicitly you will be seen as a role model by your clients. They come to you because they believe that you know better than they do, how to approach a certain difficulty. When they are sent by others, they will even actively test whether you have the appropriate expertise. Whichever way, your client *will* observe your behaviour. When your manner of communication gives you positive results, they might want to imitate that behaviour. From that point of view your conversations have a direct positive effect on your clients, independent of why they came to you in the first place. The lesson: The more adequate your own communication skills, the more your clients will be able to pick up from you.

Cognitions we will park for the moment, although it will seem obvious that in our conversation we will confront clients with the sometimes strange ways in which they interpret matters.

Paragraph summary

Knowledge of learning processes gives the care worker the opportunity to better understand his clients' behaviour. He can also use some of the principles in the way he communicates. There are three basic categories of learning process: classical conditioning, operant conditioning and social learning. In classical conditioning (also sometimes called emotional learning) an additional meaning is attached to a specific object or situation. Operant conditioning uses the consequences of behaviour: When these are experienced as positive, the behaviour will be executed more frequently and when negative, less frequently. Social learning occurs when others' behaviour is observed and imitated. The learning processes fail to always explain why people do what they do, especially when it's about ineffective behaviour. The cognitive approach attempts to fill the gap by emphasizing how our thoughts and beliefs influence the way we behave.

A bio-psycho-social model of emotion

The previous paragraphs lay the basis for this one, in which the current views on cognition and emotion are critically examined. That people experience emotions is an open door. When consulting psychological theory on what exactly an emotion is, you're treading on less certain ground. A couple of theories exist that overlap here and there and differ from each other in other areas. In this paragraph I will introduce a model of emotion that is a synthesis of several theories, leading to a broader, if not different role for emotions in the communication process.

When the help of a psycho-social care worker is called in, it is seldom about the material, actual situation. More generally it is about how clients experience their situation. Some clients are able to express their emotions well during a conversation, others have difficulty in this area. For this reason the care worker needs to be able to recognize the exact emotions. It is only when the care worker recognizes and understands the impact of these emotions on the lives of the clients that he is able to apply observational listening and respond adequately. Van Kleef (2009) in his EASI-model (Emotions as Social Information) goes a step further by saying that the emotions in a social interaction (and by extension during a conversation with a care worker) give the parties information on which they also act. People 'read' the emotions of their conversational partner, use this to judge the mood of the other while it simultaneously elicits an emotion in them. All the more reason for this theoretical paragraph, which will be translated into practice further on in the book.

Often the terms feeling, emotion and mood are used interchangeably, hence first some definitions (Nathanson, 1996):

Jargon & Definition

Feeling: Consciousness plays an important role: A feeling is experienced when an individual becomes aware that a basic response has been triggered.

Emotion: An emotion is a complex combination of basic response patterns and memory of previous experiences in which these were undergone. *Basic responses are biology, emotions are biography.* An emotion is dependent on a 'story'. Each individual experiences a certain emotion from his own perspective (acquired via socialization and history).

Mood: A state of continued experience of a certain emotion, a state of being. Usually temporary until it is no longer 'fed' by memories or until something more important captures the attention.

Mood disorder: When a negative mood is so persistent and salient that it disturbs daily functioning.

The role of the biology (basic responses, amygdala and neuropeptides) and of learning processes (classical conditioning, operant conditioning and social learning) have been dealt with. Also a number of cognitive points of view (RET and CGT). The emphasis has been on behaviour and how that can be explained. There is another approach that concentrates more on how people experience things.

*A basic response is biology,
emotion is biography*

James-Lange, Tomkins en Izard

One of the first theories in this area has been dubbed the James-Lange theory. Point of departure is that emotions are specific, by which is meant that you do not need to question whether you are experiencing happiness or fear, for example, as they are qualitatively different experiences. When you are scared of snakes you will not need to think: *'Oh, there is a snake. I am scared of snakes.'* When you encounter a snake you instantaneously undergo an anxious reaction, which, without needing to think about it, you experience as fear. LeDoux' (1996) theory on how the amygdala regulate emotional responses supports this point of view: The quick and dirty route that immediately causes a reaction. The short route is what the James-Lange theory is about: When something happens in your environment you immediately undergo an emotion reaction and you instantly know which emotion you are experiencing. You will only go LeDoux' long route when the intensity of the reaction tells you that this is important enough to warrant your full attention.

People therefore seem to first experience and give meaning to what they are experiencing afterwards and this is already hard-wired into our biology. It leads to the next discussion: To what degree are the emotions discrete, by which we mean specific and distinguishable from one another. Does anxiety feel different than sadness, for example? The theory that emotions are nothing more than a non-specific state of arousal, to which we afterwards give meaning on the basis of the environment (Schachter & Singer, 1962), has been found obsolete. See for example Marshall and Zimbardo (1979), who tried replicating the experiment without success. Tomkins (1995) says few people have actually made the effort to read the original article by Schachter and Singer. In his words: *'... despite the fact that there was no statistically significant main effect and that those significant effects reported were either small or in the wrong direction.'* In brief the original article already shows that there is no support for this theory, it has been incorrectly cited by other authors.

First experience, then interpret

Izard's differential emotions theory, which now goes under the name of the discrete emotions theory (Izard, Ackerman, Schoff, & Fine, 2002) says there are a number of basic emotions, but these are rather broad categories of emotion. Each individual creates his own emotional 'programmes' from neuronal, hormonal, behavioural and learning processes. These associations are based on experiences in the past. These programmes show a marked likeness to Tomkins' scripts, described in the paragraph on basic emotions. The discrete emotions theory has a lot of overlap with Tomkins' theory generally, from which it is also derived. Researchers do not entirely agree on the number of basic emotions: Ekman (Ekman, Friesen, & Ellsworth, 1982) cites six (joy, sadness, fear, anger, surprise and disgust) whereas the latest research distinguishes only four. Anger and disgust would be one and the same basic emotion, as also surprise and fear (Jack, Garrod, & Schyns, 2014).

The current thinking in the discrete emotions approach tries to explain the richness of emotional experience using systems theory (Colombetti, 2009). In the systems theory approach there is also a role for intensity and difference in experience. Colombetti further challenges the idea of an 'emotional episode', meaning the ability to link the experience of a particular emotion to a specific timeframe. In the systems approach emotion is constantly being experienced and changes dynamically in reaction to several factors, that also constantly vary.

Social function of emotion

The EASI-model (Van Kleef, 2009) explains how you process another person's emotions. You 'read' emotion in your conversational partner's manner, yet there are two factors that influence what the impact is on your own behaviour: Information processing and social-relational factors, see figure 8.

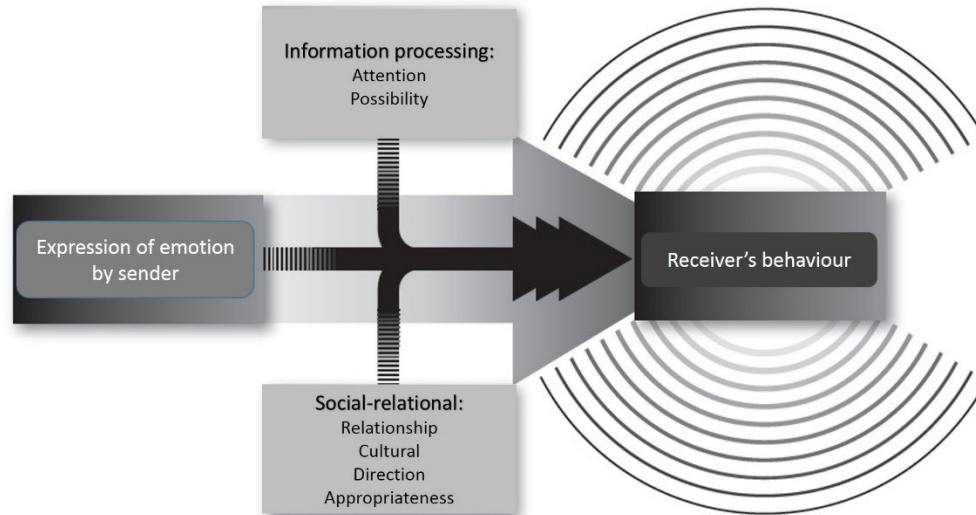


FIGURE 8. THE EMOTION-AS-SOCIAL-INFORMATION MODEL BY VAN KLEEF (2009) (© 2014 P. HOUTEKAMER)

By information processing is meant that both motivation and possibilities need to be present before you actually do something with the emotional information at your disposal. Motivation boils down to the intensity to which the basic responses are triggered: Only when something sufficiently 'does something' with you will you pay attention. The possibilities can depend on all kinds of thing. Someone with an autism spectrum disorder, for example, has a deficit when it comes to being able to read others' emotions. The purpose of this chapter fits well into this aspect: It is intended to broaden your possibilities by increasing your knowledge and awareness of emotions.

Social-relational factors can be summarized as the nature of the relationship (for example the mismatch in power between the care worker and the client), cultural norms (such as the acceptable ways in which emotions may be expressed), on what the emotion is directed (you as person or the environment) and how appropriate the emotional expression is (for example displaying happiness in a situation which most others see as sad).

To sum up: The clients will react to the emotional expression by the care worker and vice versa. Because the care worker is the 'stronger party', it is primarily up to him to be aware how the clients express their emotions and what that does with him. He can then adjust his reaction to ensure that the conversation is functional *for the clients*.

A bio-psycho-social model of emotion

By combining all these loose aspects, we come to a bio-psycho-social model of emotion as depicted in figure 9.

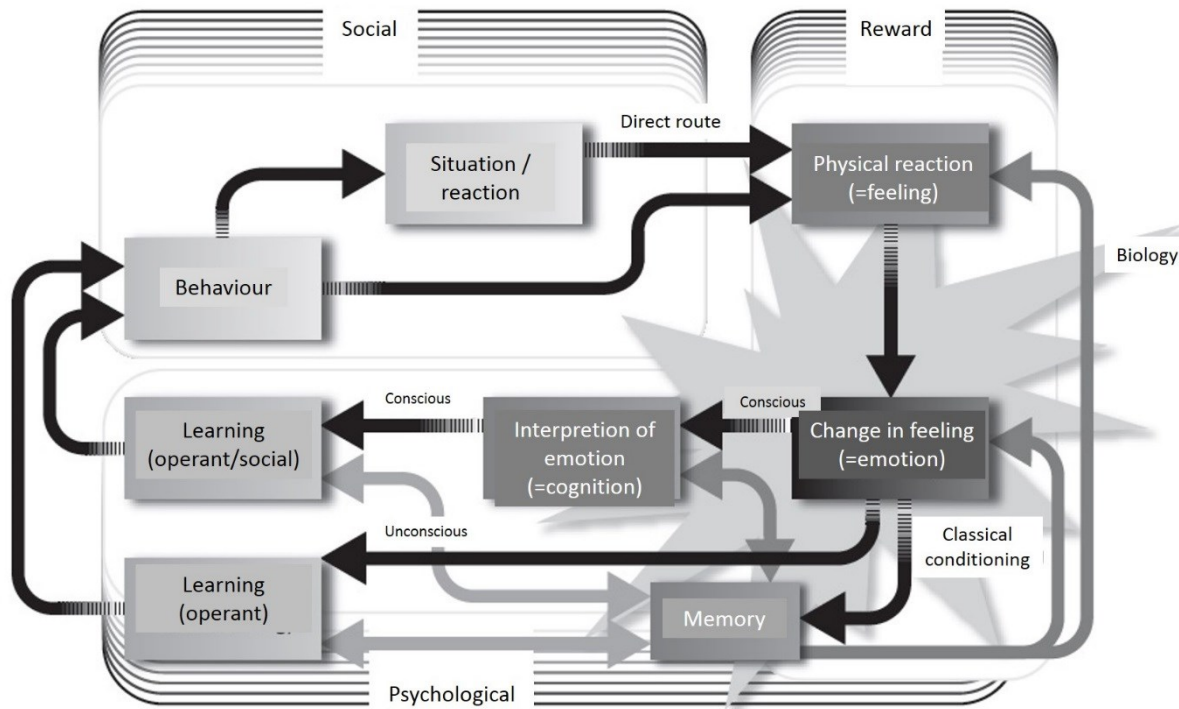


FIGURE 9. A BIO-PSYCHO-SOCIAL MODEL OF EMOTION (© 2014 P. HOUTEKAMER)

We may begin, for example, with a situation that presents itself. This elicits a physical reaction via the short, unconscious route described by LeDoux’ theory. As this reaction is felt physically, it effects a change in the emotional environment. This environment is dynamic, that is, it is constantly fluctuating. So it is actually the change in feeling which we notice and call an emotion. The feelings are however largely biological (neurotransmitters, neuropeptides and predispositions).

The link between the situation and the feeling is committed to memory due to classical conditioning. This memory influences both the intensity of the bodily reaction and how we experience these reactions. Think how a situation that deeply affected you sharpens your attention for similar situations. Every repetition of that situation makes that the intensity increases. The more intense the memory, the larger its amplifying power.

An emotion also feeds itself

The opposite also occurs: When we frequently see images of poverty in the world, as time passes it affects us less. It is an example of what is called the anchoring heuristic. To illustrate: In Johannesburg (one of the most criminal cities in the world) several murders are committed every day. If only say five are reported on a given day, one might shrug one’s shoulders and say: ‘Peaceful day’. Whereas in the average European city we would shudder at the thought of that many murders. Apparently our starting value (anchor) is vastly different: What we feel is an acceptable number.

When we speak of emotions feeding themselves it is about us, not about others. When something negative happens to us, repetition will generally increase the intensity of the emotion we experience.

To continue: The process of classical conditioning is unconscious. The memory isn’t only stored in the brain, but also in the body cells via the operation of neuropeptides.

Given that the situation sufficiently draws your attention, the conscious, long route of LeDoux kicks in, leading to cognitive processing. Both the situation and the feelings it elicits are then interpreted in combination with what is in memory. This interpretation then directs (on a more conscious level) our learning using the processes of operant conditioning and social learning. We notice what the consequences are of a particular situation. Also this conscious process causes an interaction between interpreting and memory. This

more conscious (or in any case deeper processed) interpretation affects our future behaviour and our current reaction to the situation at hand.

*It is the emotion that reinforces,
not the actual consequence*

What generally is ignored is exactly what it is that reinforces behaviour in operant conditioning. It isn't the actual reward or punishment, but what that reward or punishment does with you. And that's a feeling, not the actual consequence. The rewarding or punishing element in the consequence is the experiencing of an emotion. A positive consequence of specific behaviour will only be experienced as being positive when it renders a positive feeling.

Not all behaviour is consciously chosen, a lot is done on the automatic pilot. The several heuristics we use are a good example of unconscious decision making and by extension unconscious behaviour. Yet all behaviour was learnt sometime, someplace before, also the behaviour executed on the automatic pilot. So also here memory plays a role.

*Not all behaviour is
consciously chosen*

Whatever the situation, we will react consciously or unconsciously. Also when we do nothing, we are reacting, just like it is impossible not to communicate. Whatever our reaction, it is behaviour. And that behaviour in turn elicits a response from the (social) environment, leading to a new situation. That completes the circle: Situation – bodily response – change in feeling / emotional landscape – processing of this change – storage in memory – choice of reaction – reaction – new situation.

In this circle the function of the social environment becomes apparent. For example how social and cultural norms for expressing emotion are instilled. You could say that most of the (mental or behavioural) disorders only become visible when the expression of the internally experienced emotions is seen as inappropriate *in that society*. Cultural norms for the appropriate expression of emotion are primarily socialized via the learning process due to the individual's behaviour and the reaction that this behaviour draws out from the social environment. This explains why the Japanese person who is seething on the inside will remain smiling: Any other reaction in the Japanese culture is inappropriate and this has been made clear to him as a child by his caregivers.

Behaviour also draws out a bodily reaction in another way: Directly, without the intervention of the social environment, called intra-psychological. Research shows that when you pretend to laugh, there still is an effect. Endorphins are released, even if you are unhappy whilst forcing yourself to laugh. The self-perception theory (Bem, 1972) says the same thing: We interpret our own behaviour and draw conclusions from that interpretation. Seen from this theory I would say that because I am laughing, I probably am happy. What helps against depressive feelings is every morning, straight after getting up, to spend a quarter of an hour *pretending* to be happy. It isn't possible to dictate your feelings, but pretending is behaviour. And you can force yourself to behave in a certain way. That behaviour affects you (via your body). In this way your behaviour is bringing about a physical reaction in your body, without the help of the social environment.

*Self-perception theory: If I am
laughing, I am probably happy*

Operant conditioning as explanation goes awry when the link between negative consequences and behaviour doesn't always lead to a reduction of that behaviour. Some people keep finding themselves in situations which aren't particularly beneficial for them. Sometimes that can be explained by the difference between short term advantages versus long term disadvantages. Sometimes people simply aren't equipped to deal differently with a situation (i.e. a deficit in possibilities). There is yet another explanation: The physical reaction and its influence on the emotional landscape can be seen as intrinsically rewarding. Irrespective whether the experience turns out positively or

*Experiencing an emotion
is intrinsically rewarding*

negatively, merely the experiencing of an emotion is rewarding. This may be illustrated using depression: People who suffer from a depression are generally apathetic and their emotional experience is drab. By manner of speaking you are depressed because you aren't doing anything. This is similar to what the behavioural therapists say: *positive* reinforcement is lacking. But inactivity leads to a *lack of all forms of reinforcement*, also negative reinforcement. To exaggerate: The change in emotional landscape tells us that we are experiencing and therefore that we are alive. And that is in itself a rewarding experience. The fact that emotions are intrinsically rewarding can even lead to an addiction to certain emotions ...

The addiction can be illustrated as follows: People generally experience the most *new* emotions during childhood, adolescence and early adulthood. The rest of their lives they seem to be looking for situations in which they can experience the same emotions again. So where you used to get energy from the intrinsic reward due to emotions by experimenting with new behaviour (and thereby new emotions), later on in life you get energy by looking for new situations in which you can experience the same emotions you have already experienced before. Is that serious? Probably not, unless your life is controlled by some (particularly negative) emotions and you chase after situations in which the form of the situation is different but the outcome is the same. Like people who have a knack for repeatedly choosing a partner that will lead to drama and disappointment. Where operant conditioning principles predict that the negative reinforcement should result in a decrease (in other words: It cannot explain the repeated choice of 'bad' partners), the emotions as self-rewarding do explain it: Having a drama in your life is a way to give meaning to your existence – in such a case you identify with and are defined by your problems. To exaggerate: Some people need their problems with a vengeance.

*From our twenties onward we
experience few new emotions*

When the emotions become addictive it can therefore lead to persevering problems. A cognitive approach has little effect then, as the problem lies in the emotions, not the thinking. Experimenting with new behaviour is usually an easier route than the repression or avoidance of difficult emotions (in other words: Unlearning dysfunctional behaviour). Using this model, trying out new behaviour leads to a new (or at least different) emotional experience. This new behaviour will not only draw out a different reaction from the social environment, but is also reinforced due to the intrinsic reward of the emotional experience itself. When the new emotional experience is positive or more positive than what the dysfunctional behaviour yielded, one will tend to grab this new possibility more easily. The old behaviour doesn't need to be unlearned: It will be used ever less often until it eventually extinguishes by itself. This then leads to a ground rule in psychosocial care: Learning new behaviour is a better strategy than unlearning unwanted behaviour.

*Learning new behaviour
is easier than unlearning
old behaviour*

Where then are the cognitions in this story? Seen from this model, cognitions, thoughts and beliefs are secondary. That doesn't mean they are unimportant, to the contrary. Yet how we think about things has to do with memory. We don't 'just think', but use all our knowledge and experiences from the past as a background for the new thought that arises. As it is the change in emotional landscape that signals what is important, by extension it also determines what is remembered and how that is remembered. Emotions

Emotions are primary

thereby are primary. Cognitions also influence behaviour: In terms of systems theory they form one of the several feedback loops that maintain behaviour. As the cognitions are regulated by the emotional experience, they thereby are a so-called second-order factor. By the way: Behaviour in this model may be seen broadly as everything someone does (i.e. a verb). This means that thinking (a verb) is also behaviour, delivers an emotional experience and is by itself a rewarding activity!

Why does cognitive-behavioural therapy (CBT) then work? Probably because of the interaction between behaviour and emotion. By challenging people's thinking and beliefs, we implicitly or explicitly ask them to try out new behaviour, for example in what is known as a behavioural experiment. The client

*Cognitive-behavioural therapy
works via the emotions*

is asked to seek out a (difficult) situation in which he will execute certain behaviour. Up front it has been agreed what that behaviour is and what the expected outcome is. The expectation is based on the client's beliefs or on a hypothesis for a more functional thought or belief. Executing the experiment leads to an experience: either the expectation comes out, or it doesn't. Either way it renders information. Seen from the bio-psycho-social emotion model, the result of the behavioural experience isn't so much the outcome, but the emotional experience the outcome causes. If the behavioural experiment was set up properly, the result is usually a positive feeling, making the new behaviour more attractive than the result of the old behaviour.

In summary, emotional experience is one great, complex interaction which keeps itself going. The experience itself gives meaning to our life and thereby regulates our behaviour.

Paragraph summary

It's an open door to say emotions have an important role to play. However what an emotion is exactly, is a question of the ages. A bio-psycho-social model of emotion is presented in which a number of theories from the biological, behavioural and cognitive approaches have been combined with current emotion theories. The central facet is a dynamic, ever-changing emotional landscape, in which an emotion is a self-rewarding phenomenon that directs our thinking, what we remember and the way we see ourselves: Emotion gives meaning and regulates behaviour.

The role of emotions in the communication process

This treatise on emotions has as purpose that you realize how important emotions are in everything clients do. It is the foundation from which they act. In this vision everything people do is both an expression of emotion and a cause for change in the emotional landscape. It gives a framework to better understand why people do as they do.

The title of this chapter is *communication at the intersection between feeling, thinking and behaviour*. To demonstrate this principle, I will use the model proposed by Alan Watkins (2013), slightly adjusted to fit with the terminology of this book. In his model, behaviour is like the roof of a building and the building under the roof represents the person's behavioural skills, including therefore communication skills. Generally people think that the skills someone has are sufficient to demonstrate adequate behaviour. However merely having a skill will not necessarily guarantee the person will actually use it.

Before actually demonstrating a skill, the person needs to believe using the skill will actually have effect. This is the so-called self-efficacy (Bandura, 1977) – and being a belief lies in the cognitive (or thinking) domain. Whereas skills and behaviour are visible, cognitions aren't. They are under the surface and form the first cellar of our building, see figure 3.10.

*You need to believe you will be
effective before actually
demonstrating a particular skill*

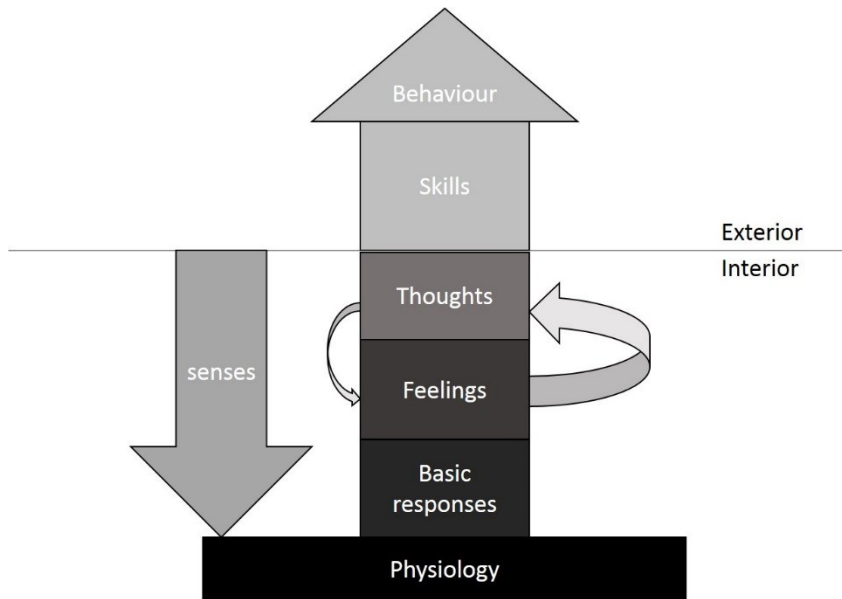


FIGURE 3.10. A BIO-PSYCHO-SOCIAL MODEL OF BEHAVIOUR (ADAPTED FROM WATKINS (2013))

However, as discussed in the previous paragraph, our thoughts and therefore our beliefs don't just come falling out of the sky. They are coloured by the way we feel, both how we have felt in the past during the several learning processes as well as right now, in the here-and-now. This second cellar is therefore what was previously called the emotional landscape, the constant ebb and flow of ever-changing feelings. You need to

Feeling has a larger impact on thinking than thinking on feeling

more than think you can do something, you need to believe it. And that belief is emotional more than cognitive. This is also why the arrow from the emotional landscape to the thinking is thicker than the one from the thinking to the feelings: How we think does influence how we feel, but nowhere nearly as strongly as the other way around.

Still not done, though. Also from the previous paragraphs we have the knowledge how these feelings come to constantly change: via the basic responses. We now have the third cellar under our building. And under our third cellar we finally find our foundation: The physiology. It is via our senses and our body that stimuli, transformed into electrical, electromagnetic and biochemical signals, trigger our basic responses. And these stimuli are both what we encounter in the outside world, our inside world and due to our behaviour, bringing us back to the biopsychosocial model of emotions in paragraph 3.3.

This book is however about communication in general (which is behaviour) and conversational skills (which when used translate into behaviour too) in particular. You can see the way in which clients communicate with you as something more than just conveying the facts. What they tell you (about their behaviour, the situation, what happened) boils down to them telling you what has affected them and how that has affected them. Yet as communicating is also behaviour it is thereby also both expression and cause of emotional experience.

Telling the story also gives emotional experience

Observational listening is less about emotional experience in the past (which often is what the clients are talking about) and more about the current emotional experience. The clients tell about the emotions they experienced then, the psycho-social worker notices what the impact is in the here-and-now. And that is the critical point: What lies in the past cannot be changed, that what is currently happening can. The psycho-social worker bases the direction of the conversation on the current experience of the clients' memory. In addition she also notices the emotions her questions elicit. Her focus on emotion gives her information about

what is important and what (subjects) needs to be explored deeper. You could say she tries to take the whole of the building in Watkins' model into account while listening (using all er senses) to her clients.

Communication is at the intersection between feeling, thinking and doing

To sum up: The role of emotions in the conversation is huge. From the bio-psycho-social model of emotion follows that you cannot think without emotion playing a role. Put differently: You cannot speak about your thoughts without giving away your emotional experience. Communication thereby lies at the intersection between feeling, thinking and doing.

A first practical implication: Teenagers generally don't want to talk about their feelings. By applying this model, it follows that it isn't really necessary to focus *your questions* on this subject. You can better ask them about their thoughts, what they think about their situation, etcetera, as this is not a loaded subject. What they tell and how they tell their story will give ample information about their emotional experience. The same goes for people who find it difficult to express their feelings or who currently find themselves in a position in which they are too vulnerable to dare share their inner experience. Fortunately in the English language the implicit link between thinking and feeling is already there. The question: '*How do you feel about that?*' is seldom taken literally and can just as easily be taken up as: '*What are your thoughts on the matter?*'

In the remainder of this chapter the negatively experienced emotions are discussed. The remainder of the book is devoted to applying this knowledge in your conversations.

Paragraph summary

During the conversation clients tell about the situations in the past and what they meant to them. This also leads to an emotional experience in the here-and-now. And that is the focus of observational listening: What is the current feeling about what happened then. At the same time the care worker's questions elicit emotions. By being sensitive to these various expressions of emotional experience, the care worker can bring depth into the conversation in a seemingly effortless, natural way.

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Note:

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