

## Spectrum of Disorder-Specific Cognitive-Behavior Therapy in Depression

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### Keywords

Disorder-specific psychotherapy · Depressive disorder · Therapeutic approaches

### Summary

In the discussion on modern psychotherapy there is an increasing demand for disorder-specific treatment. In behavior therapy there are many treatments for any disease. The diagnosis does not help in selecting the proper treatment. Instead, a ‘patient-specific’ treatment has to be developed for every single case, with reference to evidence-based theory and treatment models of cognitive behavior therapy. The following gives an overview of important different concepts of disorder and treatment models for depression, i.e. reinforcer models, coping models, cognitive models, emotion models and integrative behavioral models. It is explained how to apply these different approaches to a patient model based on behavioral analysis.

### Schlüsselwörter

Störungsspezifische Psychotherapie · Depressive Störung · Behandlungskonzepte

### Zusammenfassung

In der Diskussion um eine moderne Psychotherapie wird zunehmend eine «störungsspezifische Psychotherapie» gefordert. Diesbezüglich gilt für die Verhaltenstherapie, dass es nicht nur für jede der vielen psychischen Störungen eigene Erklärungsmodelle und Interventionsmöglichkeiten gibt, sondern dass es auch für jede einzelne Störung gleich mehrere Alternativen gibt. Eine störungsspezifische Psychotherapie bedeutet nicht, dass sich aus der Diagnose alleine schon eine störungsspezifische Psychotherapie ableiten ließe, sondern es bedarf in jedem Einzelfall eines patientenspezifischen Störungsmodells und patientenspezifischer Interventionen. Heuristisch leitend müssen dabei die im Rahmen der Verhaltenstherapie über die Jahrzehnte entwickelten evidenzbasierten Störungskonzepte sein. Am Beispiel der depressiven Störung wird eine Übersicht über wichtige unterschiedliche Störungskonzepte und die daraus abgeleiteten Behandlungsmethoden gegeben, d.h. Reinforcer-Modelle, Coping-Modelle, kognitive Modelle, Emotionsmodelle und integrative verhaltenstherapeutische Modelle. Es wird dargestellt, wie diese Theorie- und Behandlungskonzepte auf den einzelnen Fall mittels Verhaltensanalyse zu übertragen sind.

### Theory Development and ‘Waves’ of Behavior Therapy

Behavior Therapy (BT) got its start in the 1950s, with publications on reciprocal inhibition and systematic desensitization [Wolpe, 1958] which drew upon learning theory, i.e. mod-

els of classical and operant conditioning. In the second ‘wave’ or ‘turn’ within BT, during the 1960s, social-psychological paradigms and coping concepts were integrated into the methodology [Goldfried and Dzurilla, 1969]. The hallmarks of these are assertiveness training and/or training in social skills. The

third wave, in the 1970s, developed methods of assessment and modification of dysfunctional cognitions, such as the Socratic dialogue [Mahoney, 1974; Ellis, 1977; Beck, 1976]. The fourth wave, in the 1980s, was characterized by integration of theories of emotion and the development of methods of emotional control, such as in Dialectical Behavioral Therapy (DBT) [Linehan, 1987]. In the 1990s, there was a fifth wave, in response in part to the increased coverage of psychotherapy by health insurance: the development of diagnosis-oriented psychotherapy [Sperry and Carlson, 1996], whereby a specific type of psychotherapy had to prove its positive effects on individual disease patterns, defined according to ICD or DSM. The most recent wave of development, which began after the turn of the millennium, was characterized by neurobiological and development psychology-oriented BT [Fuchs, 2004; Etkin et al., 2005; Wilkinson, 2006; Linden, 2006, 2008].

Modern BT refers to, includes, and integrates all these theoretical foundations, and develops them further. Each of the BT waves has elaborated its own explanatory and treatment concepts for depressive disorders. The result is that BT has at its disposal not just one, but a multitude of disorder-specific psychotherapies for depression. Thus in disorder-specific psychotherapy, the diagnosis alone cannot allow the prescription of a specific type of psychotherapy, but rather each individual case requires a patient-specific disorder model and patient-specific interventions. This has to be guided by evidence-based models of disorders, as they have been developed in BT over the decades. In the following, the most important BT models of depression are shortly discussed, without claiming completeness. In-depth explanations can be found in the original literature. Finally, we explain how a patient-specific treatment plan can be derived from these models, providing optimal behavior therapy for the individual case.

## Reinforcer Models

*Lack of Reinforcer:* Classical learning theory or the theoretical models of reinforcement to explain depressive disorders start with the notion that depressive behavior is caused and maintained by a lack or loss of positive reinforcers. Starting with Skinnerian functional behavior analysis, Ferster [1973] developed an operant model in which depressive behavior, such as lack of drive or depressive complaints, are interpreted as avoidance of aversive stimuli. The negative reinforcement and simultaneous loss of positive reinforcement result in avoidance behavior, which leads to the maintenance and intensification of the depressive symptoms. Lewinsohn [1974] elaborated the reinforcer-loss model of depression on this theoretical basis. Depressive behavior leads, on the one hand, to the elimination of positive responses from others, while on the other hand, it is temporarily reinforced by others [Linden, 1976]. The main component of Lewinsohn's theory, however, is the assumption that there are depressive interper-

sonal deficits, in the sense of a lack of skills and abilities to behave in ways that could be reinforced. Empirical studies showed that depressives have a reduced rate of activity; derive less satisfaction from pleasant experiences; that mood correlates positively with pleasant experiences and negatively with unpleasant ones; and that depressed people speak more slowly and rarely offer praise in their verbal interactions, i.e. they less often reinforce the behavior of their partner [Libet and Lewinsohn, 1973; Lewinsohn, 1974; Lewinsohn and Amenson, 1978; Lewinsohn and Talkington, 1979; Grosscup and Lewinsohn, 1980]. Depression management training [Lewinsohn et al., 1984] was developed based on these findings; it seeks, as the primary goal of therapy, to promote pleasurable activities as positive reinforcement for non-depressive behavior, as well as to promote an adequate reinforcer level, specifically in social interactions. Using lists of pleasant activities, an attempt is made to improve the frequency as well as the mood effectiveness of pleasant activities. In role-playing, the patient practices how to achieve positive reinforcement in social interactions [Antonuccio, 1998; Cuijpers et al., 2009].

Meta-analyses estimated an effect size of 0.28 for depression management training. In respect to prevention, the risk reduction was 38% [Cuijpers, 1998; Cuijpers et al., 2009].

*Behavioral Activation Treatment:* A related approach is Behavioral Activation Treatment (BA) [Jacobson et al., 1996, 2001; Kanter et al., 2008], according to which depressive behavior, which is related to negative stimulation from stressful life circumstances or everyday problems, leads in the short term to a relief, i.e. it functions as negative reinforcement and thus limits the long-term behavioral repertoire, hindering access to positive reinforcing behaviors. The therapy focuses exclusively on developing new behavior patterns. The depressive person is helped to change his life in such a way that he can influence the environment, increase contact with sources of positive reinforcement, and reduce negative reinforcement [Jacobson et al., 2001]. In BA, the behavior analysis, i.e. the identification of the context in which the depression occurs, plays a more important role than in traditional activity training.

In a study that led to the development of BA, Jacobson et al. [1996], using the Beck Depression Inventory (BDI) and the Hamilton Rating Scale for Depression (HRSD), compared the efficacy of individual components of Cognitive Behavior Therapy (CBT) with the efficacy of the global approach. A first group was treated with cognitive restructuring (AT = automatic thoughts), the second with Behavioral Activation (BA), and the third with a combination of the two (CT). In the BA group, the BDI score decreased from 29.3 to 9.1 and the HRSD score from 17.4 to 6.4; in the AT group, the BDI score decreased from 29.1 to 10.6 and the HRSD score from 19.1 to 6.9; while the whole process led to a change on the BDI scale from 29.8 to 10.1, and on the HRSD scale from 19.1 HRSD to 7.2. Thus, the study found a similar effect for all 3 methods used, which persisted at the 6-month follow-up. Dimidjian et al. [2006] compared the efficacy of BA with that

of cognitive BT and a drug therapy, using the BDI-II [Beck et al., 1996]. In mildly depressed people, the BDI average dropped within 16 weeks from 28.7 to 11 using BA; from 27.3 to 9.76 using CT; and from 27.79 to 7.91 using the drug therapy. In severe depressives, the BDI score dropped from 36.7 to 8.8 using BA; 35.6 to 7.8 using medication; and from 34.1 to 17.4 using CT. In a study of relapse prevention, Dobson et al. [2008] concluded that BA and CT were similarly effective and both were longer-lasting and therefore more cost-effective than the drug-therapy alternative. Meta-analyses summarized that BA is an effective treatment of depression [Mazzucchelli et al., 2009; Cuijpers et al., 2007a, 2008].

*Functional Analytic Psychotherapy (FAP)-Enhanced Cognitive Therapy (FECT):* FECT is based on a radical Skinnerian behaviorism [Kohlenberg and Tsai, 2007; Kohlberg et al., 1999, 2002]. It uses the therapy session as a social environment in which the patient's clinically relevant behaviors (CRB) and cognitions can be triggered, observed, and changed. For example, a patient who cannot express his anger in everyday life, also shows this behavior in the therapy session, where it can be reinforced positively or negatively by the therapist. The authors claim a significant and lasting improvement.

However, there is only one cohort study for FECT [Kohlberg et al., 2002], in which 18 depressed adults were treated with Cognitive Therapy and 28 patients with FECT, showing a greater reduction in depressive symptoms and a better level of functioning for the FECT group.

*Reinforcement Chain Model:* An interesting further development of the reinforcer concept is the model of loss of reinforcement effectiveness [Costello, 1972]. This tries to explain why available reinforcers are no longer recognized and effective in depression. The Reinforcement Chain Model suggests that reinforcers are organized into chains, so if one link in the chain breaks, all other reinforcers in the chain lose their effectiveness in guiding behavior. So, for example, the loss of a life partner causes not only the loss of a source of reinforcement, but also the loss of subsidiary reinforcers such as a beautifully set table or a visit to the theater. This has direct therapeutic implications, but there are no controlled clinical trials.

*Learned Helplessness:* The original theory of learned helplessness [Seligman and Maier, 1967; Seligman, 1974] is as a reinforcer paradigm. Depression is seen as a consequence of strong and repetitive aversive stimulation or punishment, and the decisive factor is that the person has no control over the start or termination of the aversive stimulation. The effect is due to a random, intermittent, uncontrollable punishment, leading first to fight, then to despair and resignation, and ultimately to giving up. Symptoms are apathy, loss of appetite, weight loss, lack of initiative, and inability to learn that there is no longer punishment, and flight would be possible. After repeated aversive stimulation, a norepinephrine deficiency was measured, leading to the theory of motor activity deficit and catecholaminergic deficit [Weiss and Glazer, 1975; Weiss et al., 1975]. Learned helplessness is thus attributed to a nore-

pinephrine deficiency, and despite its clear-cut psychological cause, it can be treated with antidepressants [Glavin, 1985]. Treatment has to focus on preventing future punishment, re-installing control, and giving the individual time to recover.

## Coping Models

*Social Skills Training:* The reinforcer models consider as an important factor, to what extent patients have the necessary skills to find positive reinforcement. This particularly applies to social interactions. Independently of the question of cause and effect, depressed persons are characterized by inadequate social and problem-solving skills [Lewinsohn, 1974; Segrin, 2000; Hautzinger, 2013; Bellack et al., 1996; Becker et al., 1987]. Therefore, social skills training allows on the one hand, to help the depressive out of his social isolation, and on the other, to avoid that depressive interaction is reinforced [Linden, 1976]. The same goes for training in problem-solving skills. Depressives have a tendency toward emotionally driven solutions to problems – i.e. they have less self-confidence and thus do not approach problems systematically enough. Social skills training is part of the standard repertoire of BT. Patients are trained to identify and assert their own desires and rights, to perceive the desires of social partners, to express both positive and negative feelings and to keep appropriate eye contact and an open posture [Segrin, 2000; Bellack et al., 1996; Becker et al., 1987]. Role-playing is the most important therapeutic technique [Hautzinger, 2013; Hinsch and Pflingsten, 2002].

Studies by Bellack et al. [1981] and Hersen et al. [1984] showed that treatment of unipolar depression with amitriptyline alone, with a combination of social skills training and amitriptyline, and social skills training and placebo, all had the same effect. The greatest reduction of symptoms was seen in the patient group that received social skills training and placebo. In 12 weeks the BDI score decreased from 24.89 to 7.37.

*Problem-Solving Therapy:* Going beyond social skills training, problem-solving therapy is based on the social problem-solving model (PSM) [D'Zurilla et al., 1971, 2004; D'Zurilla and Nezu, 2010; Nezu and Perri, 1989] and the transactional problem-solving model [Lazarus and Launier, 1981; Lazarus and Folkman, 1984; Nezu et al., 1989], which define stress as a reciprocal process between the demands of the environment and the person's coping capacity. Problem-solving skills can affect the incidence, type, and number of problems that occur in reaction to a stressful life event. Dysfunctional problem-solving strategies can themselves lead to stressful life events and increased problems. Problem-solving styles are either rational, impulsive/careless or avoidant [D'Zurilla et al., 2004; D'Zurilla and Nezu, 2010]. Positive orientation towards problems and a rational style are considered constructive, because they increase the likelihood of a positive outcome. Problem-solving includes problem definition, development of alternatives, decision-making, and evaluation of the solution [Nezu et

al., 1989]. This general model of problem-solving was applied by Nezu et al. [1989] to depressive disorders. A dysfunctional and inefficient problem-solving strategy is related to the development of depression. The goals of therapy are to identify negative life events and to train the person in constructive problem-solving skills, including compensation for the negative effects of depression on attempts to solve the problem. Behavioral techniques used are prompting, shaping, behavioral rehearsal, feedback, role playing or in vivo exercises.

Bell and D'Zurilla [2009] found in a meta-analysis of 21 studies, that Problem-Solving Therapy (PST) reduces depressive symptoms of varying degrees of severity. It was shown that PST is as effective as other psychosocial therapies or drug treatment, in that its efficacy depends on the precision with which the therapy is implemented technically. A meta-analysis by Cuijpers et al. [2007b] also confirmed the efficacy of PST. A study by Mynors-Wallis et al. [1995] showed that problem-solving therapy can be used as an effective treatment for depressive disorders even in primary healthcare. PST showed the greatest response of 60% on the HAMD scale, compared to patients who had been treated with amitriptyline and placebo (52% and 27%, respectively). Another study found that a combination of PST and drug treatment had no greater effect than PST alone [Mynors-Wallis et al., 2000]. In the treatment of elderly depressed patients, PST showed greater efficacy than reminiscence therapy or a waiting list [Arean et al., 1993].

*Interpersonal Psychotherapy (IPT)*: IPT [Klerman et al., 1984; German: Schramm, 1996] is also social and problem-solving therapy, independent of the fact that it refers to the Psychodynamic Attachment Theory of Bowlby [1978] and the Interpersonal School of Sullivan [1953]. According to the IPT model, depression is a disease with multifactorial causes, but most important stressful interpersonal relations. IPT targets, despite of the reference to psychodynamic theory, not early childhood experiences, but current stressors. Therapeutic foci are role change, interpersonal conflicts, pathological grief, and interpersonal deficits. The goal is to improve social interaction by learning problem-solving skills. This includes the promotion of self-efficacy, self-control, communication style, and griefwork as well as the development of acceptance of new roles. The technical methods are classic BT interventions such as communication analysis, role playing as well as instructions and help with problem solving.

A meta-analysis by Cuijpers et al. [2008], which compared cognitive therapy, nondirective therapy, BA, psychodynamic therapy, PST, IPT, and social skills training, showed similar effects in all models. A meta-analysis by de Mello et al. [2005], which covered 13 studies, concluded that IPT is more effective than placebo, more effective than CT, and more or less equally effective as drug therapy. A randomized controlled trial by Luty et al. [2007] showed no overall difference between IPT and CT, but CT worked better in the group of more severely depressed patients, with response rates of 57%

compared to 20%. In the inpatient treatment of depressed patients, IPT in combination with an antidepressant was found to be more effective than a standard psychiatric treatment plus medication [Schramm et al., 2008]. With chronic forms of depression, IPT alone proved less effective than pharmacotherapy or the combination of pharmacotherapy and IPT [Markowitz et al., 2005].

## Cognitive Models

In models of classical learning theory, cognitions already play a role in terms of expectations, and particularly in social-psychological concepts in terms of attributions. The important role of cognitions in mental disorders was theoretically elaborated and translated in therapeutic concepts by Ellis [1977] or Beck [1976]. Similar to IPT, these developments also built in part upon psychodynamic theories.

*Rational Emotive Behavior Therapy (REBT)*: REBT is based on the assumption that the cause of most emotional and behavioral problems lies with dysfunctional cognitive processes, expressed in the form of irrational convictions, attitudes, and beliefs [Ellis 1977, 2008; Dryden, 2005]. Whereas rational convictions have a flexible relationship with reality, are logical, and have a positive effect on people and their relationships, irrational convictions hinder the achievement of personal goals and lead to mental disorders [Ellis, 2008]. REBT is based on the A-B-C model, according to which an activating event (A) achieves its meaning by means of cognitive beliefs (B); this in turn can explain emotional and behavioral consequences (C). Ellis lists the most important dysfunctional convictions, such as the opinion that one must be loved by everyone, or that certain people are bad and should be punished. If these convictions dogmatically become absolute demands, they can lead to depression [Di Giuseppe et al., 2002]. REBT aims to identify and change the irrational convictions, so that the person learns strategies to cope with problems in the future. Ellis is not only aiming here at symptomatic improvement, but at a profound philosophical change [Ellis, 2008; Dryden and Neenan, 2006]. It is crucial for that change and the treatment outcome that the patient understands the relationship between the (irrational) convictions and his emotional state and behavior. The methodological core of the therapy is disputation, aimed at questioning absolute demands [Ellis, 1980]. Imagination exercises, reality testing as well as the use of humor and metaphors are all part of the methodology.

In their overview on the efficacy of REBT, Dryden et al. [2010] cite 2 studies. Macaskill and Macaskill [1996] found in patients with a unipolar major depressive episode and a high degree of cognitive dysfunction, that a combination of REBT and drug therapy was more effective than medication alone. In chronic depression, REBT was more effective than drug treatment, and the combination of the 2 seemed to be more promising [Wang et al., 1999; Dryden et al., 2010].

*Cognitive Model According to Beck:* In contrast to the relatively simple model of REBT, which deals mainly with conscious convictions, Beck [1976; Beck et al., 1992; Beck and Alford, 2009] extended this in such a way that it became generally applicable. This requires distinguishing among automatic thoughts that are preconscious, but can be made conscious, observed, and even counted; schemata – i.e. groups of automatic thoughts on the same subject, which can therefore be inferred from the observation of automatic thoughts and not confused with conscious or rational convictions; and finally basic beliefs – i.e. value systems with high emotional charge that enable coherent behavior over an entire lifespan and also guide the life and experience of entire societies, across generations. The psychological meaning of these cognitions is the reduction of complexity in order to cope better with everyday life and satisfaction of one's needs. If basic beliefs or schemata are called into question, they are first defended, sometimes with intense emotional involvement and even using pseudological reasoning or fallacies such as magnifying, minimizing, generalizing, arbitrary inference, personalizing, etc. In contrast to REBT, where the cognitions are classified as rational/irrational and true/false, Cognitive Behavioral Therapy (CBT) differentiates between functional and dysfunctional, depending on the context. A person who considers family important will have a life-long concern with family and will suffer if the family breaks up, but less so if his or her career is stalled. A person whose life revolves around his career will suffer if his promotion is in jeopardy, whereas family problems may not be considered so important. At the beginning of treatment, CBT uses established methods of classical BT, such as behavioral activation or assertiveness training, to work with the patient on current stresses and mitigate them. The core of CBT, however, lies in the restructuring of cognitions, which first involves analysis of automatic thoughts, i.e. non-verbal and pre-conscious perceptions, which are usually associated with immediate emotional reactions. Methodologically, self-observation tasks or imagination exercises are used. In the next step, the emotional content of typical automatic thoughts is worked out, e.g., using the multi-column technique. In the course of reality testing, alternative explanations are sought for specific situations in order to achieve a reattribution. But ultimately it is a matter of modifying the cognitive schemata that underlie automatic thoughts. The method for this is the Socratic dialogue, i.e. questioning and testing the inevitability of one's own attitudes and allowing alternatives – an approach that differs significantly from disputation, since contradiction leads rather to hardening than to modification of attitudes.

The efficacy of CBT for depression has been examined in numerous studies. In the treatment of acute depressive episodes, it is more effective than placebo or supportive therapies [de Jong-Meyer et al., 2007]. A meta-analysis by Gloaguen et al. [1998] showed that CBT for mild to moderate depression is more effective than drug treatment or a non-behavioral therapeutic method. In the treatment of moderate to

severe depression, CBT was found to have effects similar to drug treatment [DeRubeis et al., 2005]. After 8 weeks of drug treatment, the response rate in the latter group was 50%, compared to 43% in the group of patients who had been treated with CBT. After 12 weeks, the response rate was 58% in both groups, and the remission rate in the medication group was 46%, in the cognitive therapy group 40%. The long-term effects in reducing the rate of relapse after the end of acute treatment are better with cognitive therapy than with drug therapy. Hollon et al. [2005] compared the prophylactic effect in 104 patients with moderate to severe depression, and found that either CBT or drug therapy was effective. The treatment was stopped and the patients were observed for 12 months. The relapse rate was 30.8% in patients treated with CBT, compared with 76.2% in the medication group. In most comparative studies with other psychotherapies, CBT was about equal to the others in both acute treatment and in the prevention of relapse [Cuijpers et al., 2008; Dobson et al., 2008; Jacobson et al., 1996].

*Schema Therapy:* Another cognitive model is schema therapy (ST), originally developed for the treatment of personality disorders, but meanwhile also applied to depression [Young, 1990; Young and Matilla, 2002]. Pretzer and Beck [1996] have already applied cognitive psychotherapy and analysis of cognitive schemata to personality disorders. Similar to REBT, in which a preset list of dysfunctional cognitions is assumed, also in ST 18 schemata are listed, which are grouped into 5 domains, which are considered to have developed in childhood, have been modified in the further development, and which are seen as universally valid [Young and Matilla, 2002; Young et al., 2005; Sulz, 2007]. Examples include secure attachment to others, autonomy, competence, sense of identity, freedom to express legitimate needs and emotions, spontaneity and play as well as self-control [Berkalk and Young, 2009; Young et al., 2005]. To protect oneself from frustrations in which reality and schemata contradict each other, people develop maladaptive coping styles early in childhood, such as schema avoidance, behavior that complies with their schemata, or schema overcompensation. The currently active schemata can be classified into schema modes, such as modes of childhood, maladaptive coping modes, parent modes or healthy adult modes. Young understands ST as an extension of CBT according to Beck [1979], in spite of the inclusion of psychodynamic concepts, gestalt therapy, and attachment theory. Therapeutic interventions include behavioral therapy, cognitive and experience-based techniques, and the therapeutic alliance. A schema dialogue between the schema voice and the healthy voice is initiated to help the patient deal with his negative emotions and to identify their origin in one of the schemata, thereby helping him to distance himself from his own schema and to change his perception and evaluation of his childhood, his parents, and the current environment. Finally, coping styles are addressed therapeutically using self-assertiveness training, systematic exposure

therapy, role play, imagination, and contingency management. The most effective component is considered to be the therapeutic alliance, with empathic confrontation and reparenting, whereby the therapist helps the patient to recognize his unmet needs and to find fulfillment within the therapeutic encounter [Young and Matilla, 2002; Berbak and Young, 2009]. This model was applied also to recurrent depressive episodes and dysthymia [Young and Matilla, 2002], on the assumption that dysfunctional schemata are increasingly reinforced in the context of depression; that schema avoidance and schema overcompensation prevent questioning of one's own depressive self-image and the development of alternatives; so that the result is a negative interaction between environment (e.g., frustrating work) and dysfunctional behavior. There is so far no evidence of efficacy of ST in the treatment of depression. Young and Matilla [2002], however, see this approach as a promising therapy for chronic and recurrent forms of depression.

*Self-Control Therapy (SCT)*: The previously described cognitive models are attribution models, i.e. they involve dysfunctional convictions, attitudes, and thought content. But there are also cognitive models, which look less at the content of a cognition (what) than at the processing of information (how). An example is Rehm's self-control model of depression [1977], which pertains to theories of self-regulation, self-control, and self-management. According to Kanfer [1970], people can control their own behavior in a process of self-regulation by means of reinforcement, i.e. by self-reward or self-punishment. This involves a 3-step process of self-observation, self-evaluation, and self-reinforcement. Healthy people are to a large extent independent of external sources of reinforcement, since they can reinforce themselves. Rehm [1977] understands depression as a deficit of self-control. Depressives give themselves less praise and more self-punishment than do non-depressives. They have a negative evaluation bias toward themselves and their behavior. Thus the problem is less a specific content or identifiable attitude, than a general bias in information processing and evaluation of events. Based on this model, Rehm [1977] proposed a structured, manualized cognitive-behavioral method for the treatment of depression, with the primary objective of improving self-control skills, so as to achieve independence of external reinforcers [Rehm and Adams, 2003]. Based on self-observations, the negative self-evaluation bias is identified and positive self-verbalizations are practiced, such as having the patient write down sentences of positive self-assessment and read them aloud again and again. By comparisons of actual and desired states, the patient is supposed to learn to evaluate himself in a differentiated way. To demonstrate the effectiveness of SCT for depression, Rehm et al. [1979] performed a comparative study of SCT and 'assertiveness training'. Both the BDI and the Minnesota Multiphasic Personality Inventory (MMPI) depression scale found less depression among patients in the SCT group. A study by Roth et al. [1982], comparing the efficacy of SCT alone and the combination of SCT and antidepressants,

showed that the combined treatment resulted in a greater reduction on the BDI score.

*Metacognitive Therapy (MCT)*: Similar to SCT, MCT also explains the etiology and maintenance of depression by dysfunctional cognitive processes [Wells and Matthews, 1994; Wells, 2011]. It is said to be particularly suitable for the treatment of major depressive episodes. One of the key assumptions is that dysfunctional cognitive content, as postulated e.g. by Ellis [1977] and Beck [1976], originates in metacognitions, i.e. in processes that direct, control, and evaluate thought. The core of these self-regulatory processes is the Cognitive Attentional Syndrome (CAS), which includes such metacognitions as worrying, rumination, expectation of the worst or maladaptive coping strategies [Wells, 2011; Uhmann and Hoyer, 2011]. CAS is driven metacognitively by both positive and negative false convictions. Patients are convinced, on the one hand, of the usefulness of their CAS; they believe, for example: 'If I worry, I'll be prepared in advance', or 'If I notice potential dangers, then I'll be safe'. On the other hand, they are convinced of the uncontrollability of their thoughts as well as of the dangers and their significance – e.g., 'I have no control over my worrying and ruminating' [Wells, 2011]. MCT raises awareness of metacognitive processes and helps to change them [Wells, 2009] by Attention Training (ATT) and practicing detached mindfulness, which stimulates flexible control over one's thinking and an awareness of what triggers rumination. Of importance is a critical review of negative and positive metacognitive convictions about rumination, monitoring of threats or other maladaptive coping strategies as well as training new cognitive processing and relapse prevention [Wells, 2011].

An open study [Wells et al., 2012] observed a significant improvement of symptoms in depressive disorders. The average BDI score decreased from 24 before treatment to 7 after. A case study [Wells et al., 2009] of 4 patients found that MCT led to improvement in depressive symptoms, rumination, and metacognitive convictions. The findings were stable in the follow-up period.

## Emotion-Focused Therapy

*Mindfulness-Based Cognitive Therapy (MBCT)*: The so far described depression models see depressed mood dependent on reinforcers, social relations or cognitive processes. Mindfulness-Based Cognitive Therapy or MBCT is based on the 'differential activation hypothesis' [Teasdale, 1988] assuming that dysfunctional beliefs and negative thoughts are activated more quickly in formerly depressed than in healthy people [Lau et al., 2004; Segal et al., 2001, 2008; Teasdale, 1988]. Cognitions are rather the consequence of emotional states than vice versa. These negative thought patterns (e.g., 'I'm stupid', 'I will never accomplish anything') have a global and stable character and further exacerbate negative mood with even minor stress, as rumination and a focus on one's negative mood can intensify

the depression process [Nolen-Hoeksema, 1987, 2000; Lyubomirski and Tkach, 2003]. High dispositional mindfulness, on the other hand, can minimize the development of depressive rumination [Raes and Williams, 2010]. Segal et al. [2001] developed MBCT with reference to the Mindfulness-Based Stress Reduction approach of Kabat-Zinn [1990]. The therapeutic goal is a distanced relationship to one's negative feelings and thoughts. Thoughts are seen as a secondary phenomenon. Mindfulness is taught by using breathing, meditation, and yoga to let one's own thoughts and emotions come and go with an open and accepting attitude, without ruminating, judging them or wanting to influence them. Focusing on the here and now, and on somatic and emotional changes that occur from moment to moment, prevents one from getting lost in thoughts, memories, and worries about the future.

A randomized controlled multi-center study comparing MBCT with 'treatment as usual' (TAU) showed a significant reduction in relapse rate in depressed patients. The follow-up study one year later showed that 37% of patients treated with MBCT and 66% of patients treated with TAU had a relapse. It was also found that MBCT did not affect patients who had fewer than 3 depressive episodes [Teasdale et al., 2000]. A study by Lau et al. [2004] showed that MBCT was most effective where there was no triggering event. In a study by Bondolfi et al. [2010], no difference was found in the relapse rate of the two groups (MBCT 33%, TAU 36%). The MBCT proved more effective in relapse prevention than a continuation therapy with antidepressants (47% vs. 60%) [Michalak et al., 2008; Kuyken et al., 2008, 2010].

*Acceptance and Commitment Therapy (ACT):* ACT is seen by its adherents as an extension of Skinnerian behaviorism and, according to their theory, relates partly to cognitive therapy and in particular to behavior analysis, with the specific concept of so-called functional contextualism [Hayes et al., 1999]. Lack of distance from one's cognitive experience, evaluations about one's experiences, avoidance of memories of one's experiences, searching for reasons for what happens and fighting against what should or should not be, are considered pathogenic. Thus ACT does not attempt to change negative experience, but to teach the patient to take negative feelings and thoughts as they are and to accept what cannot be changed. This is similar to MBCT and can be seen as an emotion control method. The patient is supported to commit him- or herself to confront and deal with problems that can be changed. ACT thus has many similarities with symptom tolerance exercises in exposure therapy, the metacognitive approach, MBCT or wisdom therapy [Baumann and Linden, 2008], which also teach to accept what cannot be changed, and to change what can be changed. It utilizes a wide range of interventions that aim to increase tolerance for suffering: from relaxation and meditation methods, to 'reframing' strategies with change of aspirations, modification of cognitive schemata and values, initiation of activities, enrichment of life, or compensation for negative facts that cannot be changed.

ACT is not a disorder-specific treatment approach in the sense of a depression therapy, but is recommended for almost the entire spectrum of mental disorders, from schizophrenia to anxiety disorders, pain, substance abuse, and eating disorders [Ruiz, 2010]. Initial work has also been done on depression [Forman et al., 2007; Zettle et al., 2011], with average effects reported.

*Well-Being Therapy (WBT):* Another emotion-focused approach of BT for depression is Well-Being Therapy [Fava et al., 1998; Fava and Ruini, 2003; Fava et al., 2009]. It aims at changing depressed mood by stimulation of incompatible positive emotions. Good and bad mood are not the opposite poles of one dimension, but distinct phenomena which can occur simultaneously. To improve good mood needs other interventions than to reduce bad mood. According to Ryff [1989], conditions of well-being are autonomy, personal development, skills for dealing with the environment, meaning in life, positive relations, and self-acceptance, which is why this therapy also comprises a cognitive component. WBT [Fava et al., 1998; Fava and Ruini, 2003; Ruini and Fava, 2004; Fava et al., 2009] does not start with looking at bad phases of mood, but with recognizing and analyzing good ones. It is assessed which areas of psychological well-being are affected and how positive mood can be generated, be it by environmental factors or cognitions. One can work with lists of pleasant activities, self-assertiveness training, or present problem-solving strategies to strengthen the phases of well-being.

In a comparative study of WBT with classic CBT for partially remitted affective disorders, WBT showed superior improvement to CBT in the patient's condition and recurrence rate (25% vs. 80%). The authors especially recommend it for the treatment of chronic depressive disorders [Fava et al., 1998].

## Integrative Models

The theoretical concepts of BT like learning theory, social psychology, cognitive theory or emotion theory can be found in all previously mentioned theories and therapies of depression, though to different degrees and mixture. Each new wave of BT does not discard the previous theoretical and therapeutic approaches, but incorporates them and if necessary extends them, making them increasingly integrative, although in a behavioral therapeutic heuristic and technological framework. Different schools of therapy are not intermixed and theoretical constructs are not removed from their theoretical context.

*Cognitive Behavioral Analysis System of Psychotherapy (CBASP):* An example of such an integrative behavior therapy approach is CBASP, which was developed primarily for the treatment of chronic depression [McCullough, 2006]. CBASP is explicitly based, according to McCullough, on Skinner's [1930] theory of operant learning, Seligman's [1974] the-

ory of learned helplessness, Bandura's social learning theory [1977], Kiesler's model of interpersonal theory [1996], and Piaget's [1995] developmental theories of cognitive-emotional development. It is assumed that depressives are fixed in a pre-operational phase of development [Piaget, 1995; McCullough, 2006]. This results in global and pre-logical cognitive processes and the inability to act empathically. The inability to regulate one's emotions affects the patient's functionality in the family as well as at work, and has a particularly negative effect in the interpersonal domain. Lack of coping strategies in stressful situations leads to feelings of hopelessness and helplessness [McCullough, 2006]. Using behavioral, cognitive, and interpersonal techniques, the therapy aims at the development of more mature, more differentiated ways of thinking and behavior patterns, such as the improvement of empathy, recognition of dysfunctional relationship patterns, ability to see the consequences of one's own behavior on the environment, and to implement functional behavior [McCullough, 2006]. In essence, therefore, CBASP is a classic behavioral analytically directed therapy according to an extended S-O-R-C schema. The main technique of CBASP is thus situational analysis, which consists of an assessment and a solution phase. Behavioral deficits can be improved with classical behavioral training, role-playing, targeted reinforcement, interpersonal discrimination activities, and interaction training between patient and therapist (disciplined personal involvement).

A randomized multi-center study [Keller et al., 2000], which compared a drug therapy with nefazodone, 16–20 sessions of CBASP, and a combination of both, found that CBASP as a monotherapy is just as effective as pharmacotherapy and less effective than the combination of the 2 methods. Nemeroff et al. [2003] argue that patients with chronic depression and childhood trauma (early onset) benefit more from CBASP than from treatment with nefazodone and also more than patients without traumatic experiences. In a comparative study [Schramm et al., 2010] there was a higher remission rate with CBASP than with IPT (57% vs. 20%). Klein et al. [2004] studied the use of CBASP as a continuation therapy and found lower relapse rates than in the patient group that received only standard checkups. Kocsis et al. [2009] studied the efficacy of CBASP, a medication change and a brief supportive therapy as augmentation treatments for non-responders to medication; they found no differences.

## Conclusion

The description of the various behavior therapies for depression shows, that there is no 'one' disorder-specific BT. Calls for the single evidence-based and disorder-specific psychotherapy fall short and ignore the multiplicity of available concepts, not only in different treatment schools, but also within BT itself. The review shows that there has been a continuous development of theoretical concepts and therapeutic

interventions over the years and 'waves of cognitive behavior therapy'. Some of it are new steps, some only minor additions or only reformulation of old knowledge, independent of the degree of marketing as new or the claim that special training and costly certification by respective 'inventors' is needed. All treatments have taken into account existing knowledge and integrated behavioral activation, social competency, problem-solving, cognitive modification or influence of mood as part of the treatment regimens. There are no distinctly new therapies, but differentiations and enlargements of existing methods of BT. All respective treatments can be applied if a therapist is capable of applying the ever same basic methodological repertoire of BT, from behavioral activation to problem-solving strategies to the analysis of cognitions or methods of accepting and affecting emotions.

The choice of the optimal method at a given moment in the individual case is determined by behavior analysis. Psychotherapy is not guided by ICD diagnoses, but focusing on disorders of function, limitations in activity and capacity, and context restrictions according to the International Classification of Functioning, Disability, and Health (ICF) [WHO, 2001]. This is similar to pharmacotherapy which is guided by so-called target syndromes [Freyhan, 1960], i.e. tranquilizers are used for states of restlessness, antipsychotics for psychotic syndromes, and antidepressants for mood problems; regardless of the diagnostic context of the symptoms.

Psychotherapy, whether it is psychodynamic, BT or other methods, has always focused across diagnoses on core problems. Those who have difficulties in social interaction get a training in social skills, regardless of whether the diagnosis is schizophrenia, anxiety disorder, depression or personality disorder. As mental illnesses are not monodimensional, for each patient an individual model and treatment plan have to be developed. Global recommendations such as DBT for borderline, ST for personality disorder or CBASP for depression are professionally not state of the art and do not allow targeted behavior therapy.

It is interesting to note that in many theories of depression, typical symptoms of depression are named 'cause' or 'vulnerability factor' of depression, like rumination, lack of empathy, interaction problems, passivity, withdrawal, problematic social interaction, negative cognitions, etc. The respective therapeutic approaches can therefore, independent of wordy theories, in essence be understood as interventions to change one or the other leading depressive symptom. The empirical studies show, that such symptoms can be targeted and improved by CBT.

For the practice of BT, the multiplicity of models has several consequences. First, behavioral therapists need a broad theoretical knowledge. It is important to understand, for example, the difference between the cognitive models of Ellis versus Young versus Beck versus Rehm and versus Wells. Someone who knows only one model or does not know how these different mental phenomena are manifested and objec-



tified in the patient, is limited in his or her therapeutic abilities and unable to carry out individualized BT according to the current state of knowledge. In the supervision of novice psychotherapists who have just listened to a seminar on a specific theoretical approach, it is common to see that the therapists, lacking alternative theoretical concepts, deal with each patient according to the same concept irrespective of the problem at hand.

But not every depressed patient can be appropriately described with any one theoretical approach: Not every depressive struggles with interpersonal loss or relationship problems; not everyone has life stresses; not everyone has dysfunctional cognitive schemata, etc. The concepts described thus do not apply to every patient. They are somewhat like psychotherapeutic subdiagnoses of depressive disorders, such as depression according to Ferster, Costello, Beck or Wells. The task of the therapist is to clarify, in each individual case, which of the various theoretical concepts and treatment models has the 'best fit'. As psychotherapy is mostly limited in time and number of sessions, not everything can be addressed at once; the therapist has to clarify which model best matches the patient's psychological situation and therefore offers the best prospect for success.

Finally, this review shows that BT is still what it has always been. It starts with the development of an individual model on the basis of a behavior analysis in reference to elaborated theories and application of specific interventions. In brief, BT is the application of behavioral analysis, i.e. the description of behavioral processes and behavioral contingencies in the here and now of approximately 400 msec. Normative phrases learned in childhood are of interest only if they come up here

and now as automatic thoughts. If a trauma that occurred long ago is to be considered relevant to a person's behavior, then in these 400 msec, it has to appear in the form of emotional memories. It cannot be explained historically why a person behaves how he or she does in the sense of behavior therapy. Microanalysis can clarify in an individual case whether reinforcer plans exist for inappropriate behavior; whether previous experiences are effective via memories or dysfunctional cognitions in the here and now; and whether there are coping deficits or idiosyncratic emotional situations. Depending on the results of the behavior analysis, an individual problem model can be designed, its predictive power can be tested by behavioral experiments and in different situations, and finally it can be translated into highly individualized treatment plans. The different theoretical and treatment concepts, as described above, serve as background for personalized treatment in the individual case, in contrast to a schematic prescriptive approach. This is true not only for depression but alike for anxiety disorders, obsessive-compulsive disorders, personality disorders, etc.

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