Abstract
Helplessness and hopelessness are central aspects of cognitive-behavioural explanations for the development and persistence of depression. In this article a general overview concerning the evolution of those approaches to depression is provided.

Included is a critical examination of the theories. The review of the literature suggests that those cognitive models describing helplessness/hopelessness as trait factors mediating depression do not really have a strong empirical base. The majority of those studies had been conducted in healthy or only mildly depressed subjects. Thus, there seems to be little justification for broad generalisations beyond the populations studied. It seems that some of the reported studies have not tested the underlying theories adequately (e.g. correlation had sometimes been interpreted as causation; adequate prospective longitudinal study designs had seldom been applied). Moreover, the theoretical models are not generally prepared to explain all depressive features (e.g. the possibility of a spontaneous shift in a manic episode).

Despite those limitations, there is a relevant impact of the learned helplessness paradigm on preclinical research in neurobiological correlates of depressive states. Last but not least, the models are of high interest with respect to the theoretical background of important modules of cognitive-behavioural therapy and its acute and prophylactic effects.

Key words
Depressive disorder · Helplessness · Hopelessness · Cognitive models · Neurobiological correlates

Introduction
For psychiatric researchers and clinicians of a biological orientation helplessness and hopelessness are typical symptoms of depressive disorders among others such as anhedonia, feelings of guilt, loss of energy or sleep disturbances. These symptoms are described within the scope of a symptom-oriented approach to depression in the classification systems of DSM-IV (APA 1994) and ICD–10 (WHO 1992). According to cognitive-behavioural theories, helplessness and hopelessness are rather considered to be potential aetiological factors as antecedent causes for the onset or maintenance of depression. In this context, helplessness and hopelessness are considered as trait factors which enhance the vulnerability of a person to react to certain environmental stimuli with depression. In these concepts helplessness and hopelessness exist independently from depressive episodes as individual attitudes representing vulnerability and risk factors.

This review briefly describes and refers to the major theoretical positions most studies in this area are based on: those of Beck (1967), Beck et al. (1985), Overmier and Seligman (1967), Seligman (1974) as well as Abramson et al. (1989). Limitations concerning the empirical foundation of the concepts will be discussed. Studies evaluating the relevance of hopelessness and helplessness as trait characteristics, predictors and risk factors for the development of depression will be described. Preclinical and clinical research concerning neurobiological correlates will be presented. Finally, in a critical appraisal the relevance of the concepts for the treatment of depressive disorders and the prevention of relapse will be discussed.
The hypotheses and empirical data

The cognitive theory of depression by Beck et al.

In the 1960s, there was an awakening interest in the construction of psychological concepts of the origin and the nature of depression. In a number of these theoretical models, the dimensions helplessness and hopelessness are central features. One of the most influential of these theories was established by A. T. Beck. His cognitive theory of depression, although first proposed decades ago, is still an important element of the cognitive approach to depression in terms of both theory and therapy. Beck defines hopelessness as negative expectancies with respect to the future and helplessness as unrealistically low concepts of the own capabilities. Beck considers such a negative view of the self and the future as a central element of the “cognitive triad”. The cognitive triad consists in negative attitudes to the self, the future and the environment. According to this theory the cognitive triad plays a specific aetiological role in depression (Beck et al. 1985). The basic hypothesis is that a cognitive disturbance precedes the affective change and is responsible for its maintenance. Before the onset of dysphoria and depression, the affected person is considered to misinterpret reality through a negative cognitive screen. Based on this theory, Beck and colleagues developed a structured and manualised treatment – cognitive therapy. We will refer to this extensively tested psychotherapeutic treatment for depression in the section Implications for treatment and prevention.

Hopelessness has been considered as the key variable linking depression to suicidal behaviour (Minkoff et al. 1973; Beck et al. 1975). The relation of hopelessness to levels of depression and suicidal intent has been explored both clinically and psychometrically. Beck and his staff have conducted a series of correlational and experimental studies of the construction of their model of depression. The majority of studies is based on questionnaires constructed to capture the proposed conceptions, e.g. the Beck Hopelessness Scale (BHS) (Beck et al. 1974). The psychometric properties of the scale – reliability and validity – were evaluated in 294 hospitalised suicide attempters (Beck et al. 1974). The reliability factor (Cronbach’s alpha) was 0.93. For a cut-off score of nine, sensitivity was high with 94.1%, but specificity was low with only 41%. Several years later, Beck et al. (1985) stated that the BHS would not be a satisfactory instrument to predict future suicide in a sample of attempters. This finding was replicated by a Swedish research group in 1997 (Nimeus et al. 1997).

The model of “learned helplessness” by Seligman et al. and the reformulated theory by Abramson et al.

Overmier and Seligman (1967) reported a study, in which dogs that were given electrical shocks not contingen upon their behaviour, subsequently had difficulty learning to escape or avoid shocks. In this learned helplessness model, it is the experience of uncontrollable events and as a consequence the expectation that no action can control outcomes in the future which finally leads to the production of symptoms of helplessness. These symptoms are above all passivity, as well as cognitive and emotional deficits including anxiety and hostility. During inescapable exposure to electric shocks, dogs learned that shocks were independent of any responses. Those dogs showed striking deficits when placed later in a box in which a simple act of crossing a barrier would have terminated a new shock. Unlike dogs not previously exposed to uncontrollable shocks, these animals seemed to be helpless. They conducted only few attempts to escape the shock (motivational deficit). Moreover, they were not likely to follow an occasionally successful response (learning or cognitive deficit) and they did not show much overt emotionality while being shocked (emotional deficit) (Overmier and Seligman 1967) (Table 1).

This phenomenon was called “learned helplessness” and it was argued that it could serve as a model of depression in humans. However, the explanation of depression in man by use of this animal helplessness paradigm has been controversial. The rapid and spontaneous “remission” from the induced deficits is one of the main restrictions of this animal model. Moreover, only a minority of experimental animals actually develops the deficits, suggesting that individual factors, perhaps genetic ones exert influence over the phenomenon.

According to the limitations, the original helplessness model was revised (Abramson et al. 1978). Now, the focus was on the individual’s personal causal explanations of negative events. It has been suggested that these explanations would play an important role for the mediation of symptoms of helplessness/hopelessness and furthermore for the development of depression. The theory was called the explanatory or attributional style. This model claimed that subjects tending to helplessness and depression, interpret bad events in internal, stable and global terms (“it is me; it is going to last for-

| Table 1 Animal model of “learned helplessness” |
| Conditions | Experimental Group | Control Group |
| Step 1 | Uncontrollable stress = learning of response-reinforcement independence | – |
| Step 2 | Controllable stress = response and reinforcement are no longer independent | Controllable stress = response and reinforcement are never independent |
| Behaviour | Learning deficit | No learning deficit |
| Results | Step 1 results in a detrimental effect on subsequent learning = affected coping strategy = “learned helplessness” | Unaffected coping strategy |