and interactional competencies (change of perspective, empathy).

"Wisdom therapy" provides strategies to translate these sub-dimensions into treatment. There is evidence that it works in patients with severe adjustment disorders[9]. The goal of the intervention is to learn how to deal with bad and good times alike. Euthymia can be defined as a state of wisdom, in which persons feel at ease with themselves and the world, their past, the present and the future, in good and bad times, and do not lose heart and courage in the face of adversities and hardship.

The concept of euthymia should reflect the daily existence of human beings. Happiness is limited to very few moments in life. Demands, hardship, burdens fill the rest of time. Back pain, heavy work or driving a car in combusted streets do not produce happiness. But there is nevertheless euthymia. The problem of mental illness is that people are overburdened and impaired by daily hassles, while healthy persons have resilience and can deal with bad times.

We should not create the misunderstanding that happiness is the goal to be pursued by our interventions. This can lead to disappointment. Instead, mastery of exceptional and daily burdens and demands, and how nevertheless to "feel OK" (not happy but euthymic), should be the aim.

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Understanding mood in mental disorders

Mood symptoms and disorders have become a major health issue and the leading cause of disability worldwide. In most branches of medicine, physiology builds the basis of pathophysiology. Psychiatry, instead, lacks a scientifically sound idea of normal functioning. This is particularly true for mood. Psychiatric classification systems conceptualize low mood and mood fluctuations as mere pathologies. Positive psychology constantly confounds optimistic mood with mental health. The paper by Fava and Guidi[1] is a refreshing alternative to these mainstream approaches to mood and its disorders. Importantly, the authors' integrative framework takes mood's adaptive function into account.

The biological mechanisms underlying mood are highly conserved and widespread across species[2]. This suggests that mood has an essential function for survival and reproduction. The brain reward system is an important center of mood regulation. Throughout evolution, this system has increased in relative size from rodents to humans, suggesting that mood is more important in humans than in other animals[3]. What are mood's ancestral and present functions?

From an ecological perspective, mood functions as a slowly changing decision-making mechanism that regulates the individual approach and avoidance behavior. This regulation is based on the expected reward rate over a longer period of time[2]. Clinicians are used to focus on easily remembered life events in the past – rather than changes in expected reward rates in the future – when exploring the causes of distress and negative emotions. This frequently leads to a misunderstanding of mood states that are detached from any immediate triggering stimulus. A good example is given by seasonal mood fluctuations that are caused by a slow unnoticed reduction or increase of the light reward rate[4]. The American poet E. Dickinson depicted this nature of mood regulation in her poem "As imperceptibly as grief, the summer lapsed away", linking mood cycles to cycles in the environment.

In scientific terms, mood integrates perceptions and emotional experiences over time. When a person experiences a series of non-rewards or punishments over time, he/she may develop depressed mood. It usually needs an enduring safe situation and repeated rewards to change this negative, risk-aversive attitude and to improve expectations about the future reward rate. What is the function of this emotional spill-over? It reflects a specific assumption about the environment, namely that threats and rewards come in cycles. In the Stone Age, a dried up blackberry bush predicted more dried up bushes. A successfully hunted gazelle predicted more hunting luck. In many instances, rewards and non-rewards still come in cycles and mood is adaptive. However, when applying for jobs or looking for a partner in a big city, the rates of rewards and punishments may not by cyclic but random. As a result, emotional spill-overs can be dysfunctional. Clinicians should help patients to differentiate functional from dysfunctional mood by estimating future reward rates in individual situations.

In humans, mood has a subjective valence. However, mood also regulates more primary cognitive and physiological systems of an organism, such as activity levels and the threshold for detecting rewards and threats, also referred to as cognitive bias. It is important that clinicians distinguish these aspects of mood, because their neural substrates differ. Serotonergic neurotransmission is particularly important for mood as subjective valence and cognitive negativity bias, while catecholamines regulate motivation and activity levels[5].

Evolutionary psychiatrists explain the high prevalence of low mood by referring to the "smoke detector principle"[6]. This posits that, in the face of uncertainty, mood regulation prefers low mood over high mood because the result of high mood may be death through overlooking risks, while the costs of low mood include missed opportunities and suffering, which do not weigh heavily in the light of evolution. As a result, it is important to detect uncertainty in the

subjective calculations of future reward rates in patients suffering from low mood.

The increasing prevalence of suffering from maladaptive mood regulation may reflect a mismatch between mood and modern environments. There has been a dramatic decrease in environmental risks, reflected by dropping rates of wars, homicides and numbers of dangerous animals. As a result, mood systems look more and more like sensitive and error-prone smoke detectors in a world where candles, fire heating and smoking have become out of fashion. Moreover, mood is not specific for a certain domain[7]. One cannot have at the same time a high mood at work and a low mood in the family. Mood is general, possibly because in ancient times reward opportunities were highly correlated. A flood destroyed almost all of them.

Another good example of a possible mood-environment mismatch is grief. In our ancestral environment, grief may have had the function to motivate searching for loved ones who simply did not return to the camp[8]. Nowadays, grief is mostly a response to a definitive loss in which prolonged sadness has become maladaptive. Vivid memories, hallucinated voices and felt presence of a meaningful other prepares for a costly and futile search. As a result, modern psychiatry has good reasons to develop therapeutic strategies for individuals suffering from prolonged grief.

Because the relationship between mood and environment is subjective, mostly unconscious and complex, psychiatry has the tendency to completely ignore this relationship. In the DSM-5, the environment does not play a role when diagnosing mood disorders. Low mood associated with symptoms such as anhedonia, low energy levels and negative thinking defines a major depressive episode. This diagnostic concept makes sense in an environment with a constantly high reward rate. However, not all environments on this planet comply with this description. Our diagnostic systems hold the danger of medicalizing real social and environmental problems. Dysthymia and mild depression may be an adaptive response to prolonged and realistically expected enduring adverse conditions. As a result, it is important for clinicians to carefully consider the individual life circumstances in which a mood disorder develops. Facing enduring adversity, therapy-induced optimism and mood enhancing drugs may increase the risk of physical and mental traumatization and even death[2].

Taken together, an evolutionary view helps to see mood as the product of interactions between neurobiological mechanisms and the structures we give to our societies and environments. Fava and Guidi's approach has the potential to identify these interactions and to foster the development of individual therapeutic plans that correspond to them.

In Fava's well-being therapy, self-observation and structured diary help to identify complex influences of the environment on well-being over longer periods of time[9]. The focus on positive situations and euthymia allows for the identification of expected reward rates that are crucial for mood regulation. Balanced functioning, flexibility, adaptation, openness, stage-dependent learning, awareness, macroanalysis, acceptance, autonomy, growth and flourishing are the key words of this timely and promising approach.

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The untapped power of allostasis promoted by healthy lifestyles

Fava and Guidi[1] write: "Psychiatrists often consider the positive characteristics displayed by a patient in their clinical judgment; yet current assessment and treatment strategies are shifted on the side of psychological dysfunction". Similarly, the word "stress" is commonly used to emphasize the negative aspect of the experiences to which we adapt daily; and this is done in such a way as to implicate cortisol as responsible for negative consequences, without also recognizing the positive role of cortisol and other physiological mediators in promoting adaptation and maintaining health in response to all experiences, whether or not we call them "stressful".

Indeed, the word "stress" is used in several ways so as to make it ambiguous. "Good stress" involves our taking a chance on something we want, such as interviewing for a job or school, or giving a talk before strangers and feeling rewarded when we are successful. "Tolerable stress" means that something bad happens, like losing a job or death of a loved one, but we have the personal resources and support systems to weather the storm. "Toxic stress" means that, when something bad happens, we do not have the personal resources or support systems, and, as a consequence, we lack a sense that we have some control. We may then suffer mental and physical health problems over time, particularly if the situation is not resolved.

Now, let us put these three forms of "stress" into a biological and behavioral context. We know that "homeostasis" means the physiological state which the body maintains to keep us alive – that is, body temperature and pH within a narrow range, and adequate oxygen level. In order to maintain homeostasis, our body activates hormone secretion as well as the autonomic and central nervous system to help us adapt, for example, when we get out of bed in the morning, walk up a flight of stairs, or have a conversation. These systems are also turned on when we are surprised by something unexpected, or get into an argument, or run to catch a train.