Article

Evolutionary theories of depression: overview and perspectives

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Abstract: Depression has reached epidemic levels worldwide. Would that be a mental disorder, as claimed by consensus on mental health? Evolutionary theorists have questioned the function of depression and proposed specific models to explain it. The aim of this paper is to present the evolutionary theories of depression, to discuss the complementarity and contradictions between these theories, and to present the social and practical implications for the treatment of depression. Those reflections and issues in the field of mental health may influence further studies from a non-pathological perspective of depression. In the field of psychology, this perspective provides insights to reevaluate psychotherapy to treat depression by focusing on causal analysis and problem solving. The study suggests that new empirical studies should be conducted to test and systematize evolutionary theories of depression.

Keywords: evolutionary psychology, depression, adaptation, deregulation, mental health.

Depression is an affective disorder characterized by the presence of depressed mood (dysphoric) and anhedonia (reduced ability to have pleasure) (American Psychiatric Association [APA], 2014). It has a substantial impact on the social life of individuals, such as the worsening of interpersonal relationships and the development of social roles, as well as the decline in neurocognitive functions (Sloman, Gilbert, & Hasey, 2003). Depression is one of the main emotional conditions people seek help (Andrews & Thomson, 2009). Depression is also the main factor for suicide deaths (World Health Organization [WHO], 2017).

Epidemiological data from the World Health Organization (WHO) show a prevalence of depression in the world population of around 4.4%, equivalent to more than 300 million people, indicating an increase of more than 18% between 2005 and 2015 (WHO, 2017). The causal factors of depression include genetic, environmental, and psychological causes. However, the risk of becoming depressed is increased by poverty, unemployment, life events, such as the death of a loved person, broken relationships, physical illness, and alcohol and drug use (WHO, 2017). Thus, given the high incidence of depression worldwide and its biopsychosocial consequences, depression continues to be a topic of study of great relevance.

In psychology, there has been a growing interest in understanding the evolutionary mechanisms of emotions (Kennair, 2003). In this field, depression has received special attention from evolutionary psychology (Kennair, 2018), which is based on the theory of evolution by natural selection, initially proposed by Charles Darwin. This approach supports three fundamental assumptions for understanding human beings: (1) there is a universal nature with the preeminence of psychological mechanisms over behaviors; (2) psychological mechanisms are adaptations shaped by natural selection; (3) "the evolved structure of the human mind is suitable for the hunter-gatherer way of life" (Cosmides, Tooby, & Barkow, 1992, p. 5).

Evolutionary psychology interprets overt behavior as a product of selected psychological mechanisms throughout human evolution and, therefore, adapted to the environment of evolutionary adaptedness (EEA). EEA refers to the set of conditions present throughout human evolution that acted as selective pressure (Yamamoto, 2018). Given that these conditions have been prevalent throughout human evolution and that current conditions are too recent to act as a selective pressure, the overt behavior is assumed as not always being adaptive in modern conditions (Yamamoto, 2018). Thus, when dealing with a specific theme based on the evolutionary approach to human behavior, we seek to understand the adaptive function and the selection process of the psychological mechanisms that regulate the development of certain behavioral strategies (Izar, 2018). The adaptive function is understood as the contribution of the psychological mechanism to

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the resolution of survival and reproduction problems of individuals who exhibited it in the EEA (Varella & Valentova, 2018).

Evolutionary psychology is not the only one to study human behavior based on the theory of evolution proposed by Darwin. Other approaches include ethology, human behavioral ecology, and gene-culture coevolution (Laland & Brown, 2002). However, the contributions of evolutionary psychology to the psychological mechanisms selected in the EEA provide the basis for asking new questions about the nature of the mental disorder and can contribute to the reduction of epidemics, such as depression (Abed, Ayton, John-Smith, Swanepoel, & Tracy, 2019). Treating and preventing depression requires recognizing the needs and vulnerabilities of the human being (Gilbert, 2006).

Several explanatory evolutionary models have been presented in different reviews (Nettle, 2004). These reviews tend to be restricted as they present and discuss the models that refer to the authors' theoretical proposals. They serve as a counterpoint or support for their elaboration. In Brazil, the discussion of depression from an evolutionary perspective is scarce in the literature (Kennair, 2018; Resende, 2011; Silva, 2008), and we found no specific review on the subject in this approach. Thus, among the evolutionary models, we will discuss the following in this review: (1) adaptationist models: depression is adaptive (Andrews & Thomson, 2009; Hagen, 1999, 2002, 2003; Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Watson & Andrews, 2002); (2) non-adaptationist models: depression would not have been selected, but would be a by-product or dysfunction of other adaptive characteristics (Nesse, 2000; Nettle, 2004). It is noteworthy that these approaches are considered evolutionary, although not adaptationist because they emphasize the importance of the evolutionary understanding of the systems of affections and depressed mood, which are the basis of depression. Thus, our main objectives were: (1) present evolutionary theories of depression; (2) discuss the relations of complementarity and opposition between these approaches; and (3) reflect on the possible social and practical implications for the treatment of depression. In doing so, we intend to contribute to expanding the debate on depression from a non-pathological perspective, which may provide subsidies for rethinking psychotherapy with the depressed person.

Evolutionary approaches to depression

Adaptationist approaches

An adaptationist hypothesis proposes that a trait has been selected for its adaptive function, providing greater aptitude to individuals who owned it than those who did not (Andrews, Gangestad, & Mathew, 2002). Adaptive functions were attributed to depressive symptoms, worked on various hypothetical models, of which we highlight the studies by Price et al. (1994), Hagen (1999, 2002, 2003), Watson and Andrews (2002), and Andrews and Thomson (2009).

Theory of social competition

Starting from an ethological view of the human species, Price et al. (1994) advocate social competition theory. This approach postulates that the depressive state evolved concerning the social competition as an involuntary and unconscious losing strategy, allowing the individual to accept defeat. Thus, the ability to present depressive states would have evolved as a mechanism to inhibit conflict (Price & Gardner, 1995). Throughout the evolutionary process, those who could become depressed had greater chances of survival than those who did not have this ability, as continuing to insist on conflict could lead to death or serious harm. In this sense, the trigger for depression would be the perception of the impossibility of winning the conflict (Price & Gardner, 1995).

In this perspective, the key functional characteristic of depression is the loss of interest or the reduction in the value attributed to activities previously considered significant. Such a reduction would favor reducing the conflict as it would decrease the value attributed to the disputed resource. In other words, the lower the value of the resource for a competitor, the greater the chance that he will give up on the competition (Price et al., 1994). Such a reduction would occur due to the perceived decrease in the resource holding potential (RHP), which refers to a measure of self-confidence or self-esteem. The resource value is determined by the attractiveness of what is being disputed. RHP determines whether an individual enters a confrontation or adopts an involuntary subordination strategy. Decreased resource retention potential would be perceived as reduced self-esteem, leading to the acute form of depression, while maintaining the low resource conservation potential would lead to the chronic form (Price et al., 1994; Price & Gardner, 1995).

Rodent studies provide partial support for this model. Although some results seem to indicate that a specific social status (dominance or subordination) would be an adequate predictor of vulnerability to develop depression, Larrieu and Sandi (2018) concluded that depression seems to be induced by the loss of social position and resources. In other words, the issue seems to lie in the loss of a key resource and not just subordination. However, the authors do not rule out the hypothesis that long-term withdrawal of resources may lead subordinate and dominant individuals to chronic depression (Larrieu & Sandi, 2018).

Social bargaining hypothesis

Hagen (1999, 2002, 2003) proposed the social bargaining hypothesis as an explanatory model of depression. According to this model, depression would

have been selected in response to social circumstances that would have occurred repeatedly in the EEA. For Hagen (2003), predominantly dangerous social circumstances caused selective pressure to evolve a bargaining strategy in humans. Clinical depression can be one of those strategies with the bargaining function to compel other group members to assist the depressed. Thus, in the view of Hagen (2003), "depression should not be caused simply by losses, failures, and other social costs, but also by circumstances in which individuals could not unilaterally alleviate these costs" (p. 105).

Starting from postpartum depression as a model, Hagen (1999) states that mothers who detect a lack of paternal or social support can induce more significant partner investment through depression. The hypothesis was tested (Hagen, 2002) with 240 mothers and fathers with a new child, using self-report instruments. The results showed that the levels of postpartum depression in one spouse correlated significantly with more significant investment in children's education, reported by the other spouse. Likewise, longitudinal research carried out by Silva (2008) demonstrated an association between the mothers' perception of low social support, especially by the baby's father, and high intensity of depressive symptoms in the puerperium and increased partner's social support.

Social navigation hypothesis

Watson and Andrews (2002) proposed the social navigation hypothesis (SNH) as an explanatory model for depression. According to SNH, depression has two main functions: solving complex social problems and garnering social support from close partners.

Anhedonia (reduced interest in the environment and pleasure in activities in general) is one of the mandatory criteria in diagnosing depression, established by the *Manual diagnóstico e estatístico de transtornos mentais: DSM-5* (APA, 2014). From the adaptive point of view, in Watson and Andrews's (2002) perspective, anhedonia can be understood as an adaptive strategy that leads the depressive to divest energy in the environment to save it. The energy would be redirected to problems related to depression in two ways: rumination and social support. Rumination "is a symptom of depression that refers to intense, distraction-resistant thinking" (Bartoskova et al., 2018, p. 1).

Watson and Andrews (2002) use two strong arguments to support that depression is adaptive: the high prevalence of depression and the cross-cultural aspect of depression (Nettle, 2004). However, epidemiological studies have shown a high correlation between depression and infectious diseases in individuals with diseases (Davydow, Ribe, Pedersen, Vestergaard, & Fenger-Grøn, 2016; Ivbijaro, Enum, Khan, Lam, & Gabzdyl, 2014). Thus, they provided an argument against the hypothesis of depression as an adaptive trait. Ivbijaro et al. (2014) found that people with asthma, hypertension, diabetes, and coronary diseases suffer more hospitalizations and generate more costs to the health system when they have depression. Davydow et al. (2016) found a correlation between unipolar depression and death thirty days after hospitalization for infection. The authors' findings highlight the negative impact of depression on chronic diseases. In the general population, depressive disorders are classified as the primary cause of non-fatal health loss (7.5%) (WHO, 2017).

From the SNH, depression is understood as a defense mechanism selected throughout human evolution and, therefore, related to the context in which it presented an adaptive function. In this way, depression would be evoked by the context and resolved if it fulfilled its adaptive function (Nettle, 2004; Watson & Andrews, 2002). However, chronic and recurrent depression testifies against this supposed function. Recurrence rates can reach 50% between 3 and 4 years and 85% in the decade after the depressive episode (Baldessarini, 2013). The risk of relapse is much greater if treatment is discontinued soon after it starts (Baldessarini, Lau, Sim, Sum, & Sim, 2015). On the other hand, considering that these studies refer to pharmacological treatment is required.

The hypothesis that depression is an adaptation to solving complex problems and obtaining social support could be tested by investigating the content of ruminative thoughts. If depression is, in fact, an adaptation, we would expect such studies to identify a relationship between the content of ruminative thoughts and the specific social problems that gave rise to depression.

Analytical rumination hypothesis

Andrews and Thomson (2009) proposed the analytical rumination hypothesis (ARH), which understands depression as a stress response mechanism elicited by analytically complex problems whose resolution function occurs through rumination.

From the ARH, rumination is proposed to occur first on the causes of problems (causal analysis), promoting rumination for problem-solving (problem-solving analysis). Solving the problem would lead to a decrease in depression symptoms (Bartoskova et al., 2018). Depression symptoms force individuals to reduce the pursuit of other goals and reallocate energy and attention to analyze and solve the problem that triggers depression (Durisko, Mulsant, & Andrews, 2015).

A limitation of this hypothesis is in the definition of what would be an analytically complex problem. There is still a lack of evidence that rumination during depression is aimed at finding solutions to problems. There is also no evidence that trade-offs are necessary to solve the problems since they generate high costs for the depressed.

Furthermore, ARH is limited, as not all depressed people have rumination (Bartoskova et al., 2018), despite being included among the diagnostic criteria for a major depressive episode in the DSM-V.

Barbic, Durisko, and Andrews (2014) developed a scale for testing ARH, called Analytical Rumination Questionnaire (ARQ). Bartoskova et al. (2018) validated the scale in two different cultural contexts (Canada and Czech Republic). The results confirmed a correlation between rumination and causal and problem-solving analyses during the depression, supporting ARH as a function of depression.

Non-adaptive approaches to depression

Depression as deregulation

Nesse's (2000) reviews discussed depression as a maladaptive consequence derived from the dysregulation of selected affection mechanisms – sadness and depressed mood. Thus, although the depression-underlying mechanisms are considered adaptive in approaching deregulation, the condition of depression is not (Kennair, 2018). Nesse (2000) states that the organisms can regulate the investment of efforts and that sadness and depressed mood could be part of this mechanism. Such a mechanism would be activated in the face of unfavorable situations, whose effort to reach a goal would result in waste, loss, or danger for the individual himself. In these situations, the pessimism and lack of motivation derived from depressed mood and sadness could inhibit the action, avoiding the waste of energy and the negative consequences of the effort. Gilbert (2006) points out that Nesse's review (2000) presents complex interactions between the pursuit of objectives and incentives, the value attributed, the possibility of obtaining success, and the consequences of failure.

Although Nesse considers that the adaptive advantages of depressed mood are related to the inhibition of certain behaviors under unfavorable conditions, for the author, depression would not lead to the same consequences. Depression has more widespread pessimism, low self-esteem, and reduced initiative (Nesse, 2000). This Nesse's hypothesis (2000) was discussed years later by Keller and Nesse (2006). The authors present the situation-symptom congruence hypothesis to explain why depressed mood would have been selected to respond to particular adaptive challenges. This hypothesis explains that different depressive symptoms appear before different situations to deal with the specific challenges of each situation (Keller & Nesse, 2006). For example, pain or emotional sadness may appear to respond to the loss of essential fitness resources (Nesse, 2000). A scale called Depressive Symptoms Scale (DSS) was developed to test this hypothesis. The results showed that guilt, rumination, fatigue, and pessimism resulted from failed efforts, while crying, sadness, and the need for social support occurred after social losses (Keller & Nesse, 2006). The authors conclude that these results reinforce the hypothesis of situation-symptom congruence, indicating that these responses may be adaptive. They even admit that "depending on the situation, some or even several episodes of depression may be normal reactions to strongly adverse situations" (Keller & Nesse, 2006, p. 328). However, the authors reaffirm the need to distinguish between adaptive and pathological depressive symptoms and highlight the emphasis of the evolutionary approach on treating the cause of depression as opposed to treating depressive symptoms, emphasized in traditional treatments.

Approaching individual differences

The approach of individual differences, proposed by Nettle (2004), presents depression as non-adaptive and tries to answer why some individuals become depressed while others do not. In agreement with Nesse (2000), in this model, affections are considered adaptations common to the human species, while depression is poorly adaptive. Based on the evolutionary approach, the adaptive function of mood is assumed to integrate information about the current state of the environment and the current physical condition of the organism to adjust its decisions about the allocation of behavioral effort (Nettle & Bateson, 2012).

To explain why some people are depressed, and others are not, Nettle (2004) states that evolution produced a continuous population distribution of affective reactivity. Affective reactivity is understood as the sensitivity to internal and external stimuli to individuals who modulate mood states. Differences between individuals in affective reactivity would have been selected, given the diversity of the EEA. This variation would have been adaptive in the EEA, enabling individuals to perceive and respond in a way that is more adjusted to the characteristically complex and dynamic human social environment. Thus, individuals vulnerable to depression would be at the upper limit of the population distribution.

A criticism raised to this hypothesis is its tautological feature: some people get depressed because of individual differences. Therefore, individual differences are known to occur because some people get depressed and others do not, i.e., the cause of depression is attributed to individual differences and individual differences to sensitivity to depression.

Convergences and controversies between evolutionary theories of depression

The evolutionary hypotheses about depression in this review bring varied readings of the symptoms, causes, and function of depression. However, there is consensus on the emotions to be selected and the relevance of the

social component to depression. Chart 1 summarizes the main characteristics of the theories reviewed here.

The social bargain hypothesis and the social navigation hypothesis attribute a similar function to depression, i.e., garnering social support from group members. However, the second hypothesis further works with the resolutive aspect of depression related to social problems. This last aspect is common in the proposals of the social navigation hypothesis and the rumination hypothesis. Both have one of the authors in common and the second seems to originate from the first since it is after it. However, they differ in one fundamental aspect. In the social navigation hypothesis, the function of depression is twofold: to obtain help and solve socially complex problems; in analytical rumination, the function of depression is unique: to solve socially complex problems from the causal analysis and the analysis of solutions to the problem. However, the authors do not rule out the possibility that the depressed person may need social support to solve these problems.

Price et al. (1994) demonstrated that depression usually follows life events, such as mourning. This would happen because the social classification is so dependent on the support of others that the loss of significant people becomes the main predictor of loss of classification in the social ranking. Provision of help by partners has been tested in the case of postpartum depression, and there is evidence, as a result of empirical research, that partners of mothers with postpartum depression "compensate" for maternal absence by "investing" more in babies (Bottino, Nadanovsky, Moraes, Reichenheim, & Lobato, 2012). However, depression lacks scientific evidence that occurs in other situations can lead to garnering social support. Also, there is no evidence that depression induces cognitive changes that lead to the analysis and solution of social problems. The development of the analytical rumination scale (ARQ) is a step that contributes to answering this question. However, it has limitations as it is a still recent study with no evidence of practical application and in other populations (Bartoskova et al., 2018).

Chart 1. Evolutionary approaches to depression

Type/model	*Hypothesis*	*Causes/elicitors of depression*	*Function of depression*	*Definition*	*Authors (main)*
Adaptive	Social competition hypothesis	In the chronic form, it appears due to the low "potential for resource conservation"; in the acute form, due to the drop in the "potential for resource conservation"	Conflict resolution involving social competition	Involuntary subordination strategy.	Price et al. (1994)
	Social bargaining hypothesis	It is triggered when individuals realize that they are suffering costs that the actions of the group members can alleviate	Signals to other group members that someone is suffering costs	It is a strategy (unconscious) of bargaining (negotiation) in humans	Hagen (1999, 2002, 2003)
	Social navigation hypothesis	Social conflict	Garner social support and solve complex social problems	It is a type of emotional pain	Watson and Andrews (2002)
	Analytical rumination hypothesis	Elicited by analytically complex problems	Resolution of analytically complex problems through causal analysis and problem-solving	A stress response mechanism	Andrews and Thomson (2009)
Non-adaptive	Individual differences	There is an ideal reactivity distribution of the affection systems in the population. Being at the upper limit of this distribution leads to vulnerability	–	It is deregulation that appears in vulnerable individuals	Nettle (2004)
	Deregulation	Serious life events	–	It is affection deregulation.	Nesse (2000)

Is depression adaptive?

The discussions about evolutionary approaches to depression weigh, above all, regarding the possibility of presenting an adaptive function given its high cost for individuals. Adaptations, according to Nettle (2004), are characterized by having: (1) appeared in an ancestral population; (2) improved the fitness of those individuals who presented it; and (3) thus spread to achieve genetic fixation. However, depression does not show any of these marks for the author, as it is characterized by heredity, recurrence, cognitive impairment, and a negative impact on social relationships. However, in contrast to this criticism, we point out that not all adaptive characteristics are positive or generate only positive effects in the modern environment. Werner (2018) points out that "we must not confuse biological adaptation with happiness or with mental or physical health" (p. 19). Physical pain and nausea are examples of adaptations designed to protect from harm, although they are not pleasant experiences (Hagen, 2011). Another example is the selection for preference for the sweet taste, which may have been adaptive in providing a "clue that the food contains carbohydrates and energy" (Lopes, Ferreira, & Araújo, 2018, p. 533). However, in the modern environment, with an abundant supply of sugars, the preference for sweet taste can contribute to the increase of comorbidities such as diabetes, obesity, and other chronic diseases, which generate serious social losses and high public health expenses.

A favorable argument for the hypothesis of depression as an adaptive characteristic is presented by Hagen (2011). The author argues that adaptations are universal for a species, i.e., they must be present in everyday life and not just in clinical populations. Depression is a public health problem that affects millions of people around the world and, even in more traditional cultures, there have been reports of its occurrence (Watson & Andrews, 2002). As for the absence of genetic variability, required to consider a trait as adaptive, Hagen (2003) states that studies on depression should be reconciled with those related to genetics and biochemistry. Studies with the human genome have shown difficulties in determining the genes associated with major depression disorder (MDD) due to the etiological heterogeneity characteristic of depression (Sullivan, 2015). A study by Ripke et al. (2013) with genome and MDD analyzed women with recurrent MDD. The results led to the hypothesis that social interactions and genes are significant for MDD and can only be understood if genetic and environmental risk factors are modeled simultaneously (Ripke et al., 2013). In another study by Howard et al. (2018), the results showed that the analyzed depression phenotype had a significant genetic component, indicating heritability. These studies indicated a probable genetic variability in depression, being unfavorable to the adaptive hypothesis of depression.

While the approach to depression as deregulation states that sadness and depressed mood are adaptive (Nesse, 2000), depression is deregulation. If so, it requires establishing a greater understanding of the adaptive functions of sadness and depressed mood for health to understand how they become dysfunctional (Hagen, 2011). In any case, the theory of deregulation has clinical implications for the treatment of the depressed. Based on the theory of deregulation, the main objective of psychotherapy would be to restore sadness and depressed mood to the "threshold" considered healthy instead of reducing the symptoms of depression. However, what would be that limit? It is possible to argue that this "limit" refers to the patient's functionality and well-being. However, this is certainly not an easy issue to resolve.

Social and practical implications

Evolutionary theories of depression, if confirmed, as some empirical studies cited throughout this text have shown, offer substantial implications for mental health studies. Depression, to date, has been widely accepted and described by the DSM-5 (APA, 2014) as a mental disorder. However, if the analytical rumination hypothesis, for example, is correct, the possibility for further studies opens up from a non-pathological perspective of depression. Some psychology therapies work with the modification of the ruminative thoughts of depressed people. However, they assume that rumination is a negative aspect that must be suppressed.

In contrast, the social navigation hypothesis and the analytical rumination hypothesis assume that rumination is a significant factor in depression and should be explored and not suppressed. A test of analytical rumination theory could involve comparing two groups of depressed people. One would receive treatment based on the modification of ruminative thoughts. The other would focus on causal analysis and problem solving revealed from ruminative thoughts.

Regarding the psychotherapeutic work of evolutionary psychologists with depression, Giosan (2020) stands out. He recently published a manual on cognitive evolutionary therapy (CET) for depression. CET results from combining some cognitive-behavioral therapy (CBT) techniques with evolutionary psychology as a basis for understanding depression. CET was clinically tested in a randomized study compared to cognitive therapy (Giosan et al., 2020). The results showed similarities between the effectiveness of both therapies. However, CET was statistically superior to the CBT, causing greater involvement in social and pleasant activities maintained in the follow-up and a more significant reduction in behavioral inhibition/avoidance (Giosan et al., 2020). CET focuses on identifying problems related to fitness and planning appropriate interventions for these problems, intending to help individuals achieve their biosocial objectives (Giosan, 2020). The term fitness

in the evolutionary sense is considered the degree of conformity between an organism and the environment (Giosan, Mureşan, Wyka, Cobeanu, & Szentagotai, 2018).

Another example is the case study published by Krupnik (2015) on the results of using eye movement desensitization and reprocessing (EMDR) with an evolutionary-based therapy for depression, called treating depression downhill (TDD). TDD works in three phases: exploration, acceptance, and behavioral activation. The first two phases consist of facilitating the depressive response through the experience of acceptance. In the third moment, motivation is worked through the experience of pleasure, encouraging the involvement in pleasurable activities. Krupnik conducted sixteen therapy sessions with a patient with a previous history of depression and other disorders. At the end of the intervention, the patient showed improvements that remained stable at follow-up.

The evolutionary perspective also points to the changes made in the environment to reduce suffering and vulnerability to depression (Nettle & Bateson, 2012). As mentioned at the beginning of this review, the risk of becoming depressed is increased by poverty, unemployment, life events, physical illness, and problems caused by alcohol and drugs (WHO, 2017). Working on humanitarian issues, reducing social inequality, more egalitarian policies, and allocating more resources to alcohol and drug policies can positively affect people most at risk.

It is essential to mention that the applications of expanding evolutionary psychology show overcoming the "two cultures" model for the biosocial model, arguing against dichotomous thinking that emphasizes biological aspects or the social environment. For example, Shakespeare and Erickson (2001) criticize ultra-Darwinian models that take with them the legitimacy of the natural sciences by defending the predominance of the biological imperative. They also criticize the other extreme, with models limited to social constructionism. Current evolutionary theorists propose an interdisciplinary approach that includes studies of the depressed brain with psychological research on its ecological, developmental, and bio-behavioral correlates to explain the depressed mood and its clinical manifestations (Badcock, Davey, Whittle, Allen, & Friston, 2017). In this theoretical synthesis of dynamic systems, depression can only be understood considering the neural mechanisms in bidirectional interaction with the broader context of human evolution in processes of enculturation, development, embodiment, and behavior. It is noteworthy that the explanation of depression from the biological functioning integrated into the environment does not invalidate the other areas of mental health, which, over the decades, have advanced in treatments that benefit the quality of life of people with depression. However, a synergistic view of depression can inform how to best deal with this condition while seeking to capture complex interactions at multiple causal levels – proximal and distal.

Final considerations

Depression is not a single disease, as there are different types of depressive disorders – disruptive mood disorder, major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/drug-induced depressive disorder, depressive disorder due to another medical condition, another specified depressive disorder and unspecified depressive disorder (APA, 2014). Therefore, different situations evoke a depressive condition. Evolutionary psychology has considerable literature on the evolved mechanisms of depression, which provide evidence to rethink the psychopathological perspective of depression. Adaptive evolutionary theories, in particular, offer a theoretical framework that seeks to explain depression from its adaptive function and, therefore, not necessarily as a pathological feature.

Psychotherapeutic work with depressed people from an evolutionary perspective has been carried out (e.g., Giosan, 2020; Giosan et al., 2020; Krupnik, 2015). Also, scales that test the predictions of evolutionary hypotheses have been developed, like those cited throughout this review (e.g., Barbic, Durisko, & Andrews, 2014; Bartoskova et al., 2018; Keller & Nesse, 2006). However, there are still no reports in Brazil about validating these scales or implementing psychotherapeutic work in this approach to depression. This review is hoped to foster this discussion and research.

This review has limitations, as not all evolutionary hypotheses about depression have been discussed, and there has not been an exhaustive survey of scientific evidence of them. In any case, it was not our goal to definitively answer the questions surrounding evolutionary theories about depression or to propose a new theory. On the contrary, we suggest that more empirical studies be carried out to subject evolutionary theories to test, considering the implications and their resulting benefits. Thus, we reaffirm the relevance of theoretical studies of depression under evolutionary approaches and the eminent need for empirical studies that subject them to testing.

Teorias evolucionistas da depressão: panorama e perspectivas

Resumo: A depressão tem alcançado níveis epidêmicos ao redor do mundo. Seria a depressão um distúrbio mental, como é consenso na saúde mental? Teóricos evolucionistas têm-se questionado quanto à função da depressão e proposto modelos específicos para explicá-la. O objetivo deste artigo é apresentar teorias evolucionistas da depressão, discutir as relações de complementariedade e contraposição entre elas e as implicações sociais e práticas para o tratamento da depressão. Essas

reflexões e questionamentos no domínio da saúde mental podem influenciar novos estudos a partir de uma perspectiva não patológica da depressão. No âmbito da psicologia essa perspectiva fornece subsídios para repensar a psicoterapia com o deprimido, enfocando a análise causal e a resolução de problemas. Sugere-se a realização de estudos empíricos com a finalidade de testar e sistematizar as teorias evolucionistas da depressão.

Palavras-chaves: psicologia evolucionista, depressão, adaptação, desregulação, saúde mental.

Théories évolutionnistes de la dépression : aperçu et perspectives

Résumé : La dépression a atteint les proportions d'une épidémie mondiale. Les théoriciens évolutionnistes se sont interrogés sur la fonction de la dépression et ont proposé des modèles spécifiques pour l'expliquer. Cet article vise à présenter les différentes théories évolutionnistes de la dépression, discuter leurs relations de complémentarité et d'opposition, et débattre les possibles implications sociales et pratiques pour le traitement de la dépression. Ces réflexions dans le domaine de la santé mentale peuvent influencer de nouvelles études dans une perspective non pathologique de la dépression. Dans le domaine de la psychologie, cette perspective permet de repenser la psychothérapie avec les personnes déprimées, en se concentrant sur l'analyse causale et la résolution des problèmes. Des études empiriques sont proposées dans le but de tester et systématiser les théories évolutionnistes de la dépression.

Mots-clés : psychologie évolutionniste, dépression, adaptation, déréglementation, santé mentale.

Teorías evolutivas de la depresión: visión general y perspectivas

Resumen: La depresión ha alcanzado niveles epidemiológicos alrededor del mundo. ¿Será la depresión un trastorno mental como se cree en el dominio de la salud mental? Teóricos evolucionistas se cuestionan sobre la depresión y han propuesto modelos específicos para explicarla. El objetivo de este artículo fue presentar teorías evolutivas de la depresión, discutir las relaciones de complementariedad y contraposición entre ellas, así como las implicaciones sociales y prácticas para su tratamiento. Estas reflexiones y cuestionamientos, en el dominio de la salud mental, pueden influir en nuevos estudios a partir de una perspectiva no patológica de la depresión. En el ámbito de la psicología, esta perspectiva provee subsidios para repensar la psicoterapia con el deprimido enfocándose en el análisis causal y la resolución de problemas. Se sugiere la realización de estudios empíricos con la finalidad de probar y sistematizar las teorías evolucionistas de la depresión.

Palabras clave: psicología evolutiva, depresión, adaptación, desregulación, salud mental.

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