

## Evolutionary Psychology

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### Book Review

#### Evolutionary Basis of Depression?

Review of Paul Keedwell, *How Sadness Survived: The Evolutionary Basis of Depression*. Radcliffe Publishing, Oxford, 2008, 176 pp, US\$29.95 ISBN 1846190134

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Some books are interesting for experts and can be understood by lay people as well. This is actually not uncommon in evolutionary theory; *Darwin's Dangerous Idea* (Dennett, 1995) and *The Selfish Gene* (Dawkins, 1976) are well-known examples. Depression has been studied from an evolutionary framework, so the idea of writing a book about it for both experts and lay people seems reasonable.

The author of *How Sadness Survived* has a track record in depression research, (e.g. Keedwell, Andrew, Williams, Brammer, & Phillips, 2005). Therefore, being a practicing psychiatrist with an interest in evolutionary psychology I looked forward to reading it. Unfortunately, although at times interesting, overall the content is somewhat disappointing.

According to Keedwell, depression is caused by frustration of “archetypal needs”, such as the need for a loving relationship and for shelter and security. It ostensibly has a re-assessment function and encourages people to make changes in their life. This is an interesting hypothesis, which, if correct, would explain how the ability to become depressed could be adaptive.

There are a few inaccuracies in the book. For example, Keedwell states (p. xi) that Mill wrote *On Utilitarianism* when he was 19 but this is incorrect, as the author later acknowledged (Keedwell, 2008). Keedwell claims that Eysenck first coined the terms introversion and extraversion (p. 141), whereas Jung mentioned introvert and extravert as personality types before Eysenck (Mishel, Shoda, & Smith, 2004). However, it is not just the odd oversight that is problematic in this book: Keedwell uses findings from the literature quite selectively throughout.

In the first part, Keedwell explains his key arguments for an evolutionary basis of depression, providing some references to the current empirical literature and giving the impression that his hypothesis is well supported by empirical evidence. However, in my view Keedwell ignores several important points.

A number of retrospective studies have shown that people who commit suicide are more likely to have been depressed compared to controls (e.g. Baxter & Appleby, 1999; Foster, Gillespie, McClelland, & Patterson, 1999; Henriksson et al., 1993). Suicide is

generally not adaptive. Keedwell therefore denies the importance of the association between depression and suicide. He states that “Depression and suicide seem to have different patterns of inheritance within a family tree” (p. 19), adding that empirical data from the Amish have shown that family histories of suicide are distinct from family histories of depression. However, he does not refer to any relevant research. If he meant to discuss Egeland and Susse’s study (1985) - and I could not find any other relevant research concerning Amish and suicide on Medline or PsychInfo - Keedwell is misinterpreting the results.

Egeland and Susse (1985) showed that among the Amish there were:

- families with an increased risk for affective disorder and no increased risk for suicide, and
- families with an increased risk for both affective disorder and suicide.

However, in this study there was only one suicide in a family without any increased risk for mental illness, so the authors were not able to state anything about the heritability of suicide without family loading for affective disorder. Egeland and Susse's results can also be explained by the theory that suicide is a complication of affective disorder. If the latter is true, it would be less likely that depression is adaptive. Therefore, Egeland and Susse's study does not really support Keedwell's view.

In evolutionary psychology, there is frequent debate whether a certain condition is currently beneficial or whether it was only so at the time of our distant ancestors. Keedwell argues that having a depression is advantageous even in modern times. He claims that empirical results have shown that people are actually functioning better after their depression (Buist-Bouwman, Ormel, De Graaf, & Vollebergh, 2004).

The Buist-Bouwman et al (2004) research was a longitudinal study in the Netherlands whereby subjects were asked three times - 1996 (T0), 1997 (T1), and 1999 (T2) - about their general functioning and about their psychiatric symptoms. Diagnoses were based on an interview by a trained lay interviewer; functioning was established via self-report questionnaires. People who were not depressed at T0, depressed at T1 and not depressed at T2 reported higher levels of functioning at T2 than at T0. However, after more detailed analysis of the study it remains to be seen whether it really supports Keedwell's argument.

First, self-report questionnaires are not the most reliable way to assess functioning in general. If one must use questionnaires, those filled in by an informant are generally preferable. After depression it is likely that people rate their functioning higher because of the comparison with how they felt when depressed. (Keedwell himself even uses the phrase “honeymoon period” on p. 121.)

Apart from problems with assessing functioning via self-report questionnaires there is an even bigger problem. Keedwell's point is that depression is advantageous in current circumstances. In the Buist-Bouwman et al study (2004) people with previous depression reported higher levels of psychological functioning after their depression than beforehand. But, although people who had been depressed reported improved functioning after their depression had lifted, they were still functioning less well than the controls who had not been depressed! From an evolutionary point of view it is difficult to explain the persistence of depression if people who are recovered still function less well.

Keedwell makes a distinction between mild/moderate depression (adaptive) and severe depression or melancholia (not adaptive). He does not discuss the view of, for example,

Nettle (2004) that depression as such is not an adaptation. Nettle makes a distinction between low mood (possibly adaptive) and depression (not adaptive); Keedwell argues for putting the distinction between adaptive and not adaptive between mild and severe depression, but he does not offer any arguments for this. Both Keedwell and Nettle imply that the presence and duration of symptoms determines whether there is only low mood, mild depression or severe depression. Indirectly they both assume that one could determine on the basis of symptoms alone whether somebody is depressed.

Emphasizing symptoms is the current approach advocated by psychiatric classification systems such as the DSM-IV and ICD-10, but it has been criticized. Thus, Horwitz and Wakefield (2007) recently argued that one should not only focus on the presence and severity of symptoms but also on the context in which particular symptoms arise. It could well be that depressive symptoms are sometimes adaptive and sometimes not, depending upon the situation. Crying for days after the death of one's partner is normal and probably adaptive but crying for days after the loss of an apple is not.

In discussing the Buist-Bouwman et al. study (2004) Keedwell does not mention the importance of the context. However, he actually needs this argument to use this study to support his hypothesis. If something dreadful happens and one functions better afterwards but still less well than average, this might still be adaptive, if people with the same life events who did not become depressed are functioning worse. Buist-Bouwman et al (2004) did not mention life events, so in my view it remains to be seen whether there is empirical support for Keedwell's suggestion that depression is currently adaptive.

It is an important question whether depression is beneficial in the current situation, because the answer can guide treatment. Nesse (2000) argued that taking antidepressants or having cognitive behavioral therapy might encourage people to stay in a situation they need to change, in which case such treatment might not be in the patient's interest. And the reverse is also true. If somebody is depressed and not doing anything to make needed changes in his or her life situation, then treatment with medication and/or cognitive behavioral therapy might provide the encouragement necessary to make such changes. However, a given condition can be beneficial or detrimental in the current environment independent of having been adaptive for one's ancestors.

The second part of *How Sadness Survived* is a kind of self-help book, in which Keedwell argues that people with a mild or moderate depression should try to re-organize their lives and that medication should be used sparingly. By making life changes people could thus benefit from their depression: Keedwell advises to find new goals, new strategies, and/or new standards.

In this second part the author refers only sparingly to empirical studies, making use of literature and films instead. He does not explain that his treatment suggestions are somewhat speculative, probably based upon common sense and his own experience in treating patients. As far as I know, Keedwell has not tested his treatment regime.

In my view, the main problem with *How Sadness Survived* is that the author combines two aims, namely explaining his views about the evolutionary basis of depression and writing a self-help book. Neither Dennett nor Dawkins tried to do the latter. Keedwell gives the impression that his view is scientifically sound, although in fact certain aspects are largely hypothetical. It is still not clear whether depression is adaptive in general, only under specific circumstances or not at all, and his suggested treatment has not been empirically tested.

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