



Costs and benefits of realism and optimism

Lisa Bortolotti and Magdalena Antrobus

Purpose of review

What is the relationship between rationality and mental health? By considering the psychological literature on depressive realism and unrealistic optimism, it was hypothesized that, in the context of judgments about the self, accurate cognitions are psychologically maladaptive and inaccurate cognitions are psychologically adaptive. Recent studies recommend being cautious in drawing any general conclusion about the style of thinking and mental health.

Recent findings

Recent investigations suggest that people with depressive symptoms are more accurate than controls in tasks involving time perception and estimates of personal circumstances, but not in other tasks. Unrealistic optimism remains a robust phenomenon across a variety of tasks and domains, and researchers are starting to explore its neural bases. However, the challenge is to determine to what extent and in what way unrealistic optimism is beneficial.

Summary

We should revisit the hypothesis that optimistic cognitions are psychologically adaptive, whereas realistic thinking is not. Realistic beliefs and expectations can be conducive to wellbeing and good functioning, and wildly optimistic cognitions have considerable psychological costs.

Keywords

depressive realism, mental health, positive illusions, unrealistic optimism

INTRODUCTION

Do accurate cognitions make us happy? It would seem not. Compare unrealistic optimism [1] and depressive realism [2]. Depressive realism tells us that people with depression make more accurate judgements and realistic predictions than people without depression. For instance, when asked to assess their own performance in a novel task and in the absence of feedback, people with depression are more likely to assess their performance accurately than controls. Unrealistic optimism tells us that predictions made by people in a nonclinical sample are more optimistic than is objectively warranted by the evidence. For instance, when people think about the future, they tend to underestimate their chances of developing cancer or getting a divorce.

When depressive realism and unrealistic optimism are examined together (see Refs. [3] and [4]), several questions emerge. Are the psychological benefits of optimistic predictions brought about by their inaccuracy? Are people with depression sadder but wiser than people without depression? In the last couple of years, these issues have been addressed in a significant number of new empirical studies and literature reviews. In the emerging picture is the one in which the meaning of depressive

realism and unrealistic optimism is shifting and their scope is being refined. The view that there is a trade-off between truth and wellbeing, in which obtaining wellbeing depends on distorting the truth, is revealed as too simplistic.

DEPRESSIVE REALISM: TRUTH OR FICTION?

The phenomenon of depressive realism faces a multitude of challenges. The phenomenon was originally described in terms of precision in assessing one's own control over processes that could not be controlled [2], but since then depressive realism has been stretched to include accuracy in

Philosophy Department, University of Birmingham, Edgbaston, Birmingham, UK

Correspondence to Lisa Bortolotti, Philosophy Department, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK. Tel: +44 121 414 7230; e-mail: l.bortolotti@bham.ac.uk

Curr Opin Psychiatry 2015, 28:194–198

DOI:10.1097/YCO.0000000000000143

This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 License, where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially.

KEY POINTS

- Recent psychological literature on the phenomena of depressive realism and unrealistic optimism raises doubts for the claim that overly optimistic beliefs and predictions contribute to mental health, whereas realistic judgements lead to decreased wellbeing.
- Depressive realism is observed in time perception and in estimates of self-related circumstances, but it does not seem to extend to the prediction of random future events and to estimates of states of affairs concerning other people.
- Realism can be detrimental in some contexts (e.g., causing concern for the possibility of future negative events) and beneficial in other contexts (e.g., leading to better adjustment to a degenerative disorder).
- The phenomenon of unrealistic optimism has been confirmed and some preliminary investigations of its neural bases have been attempted.
- Although optimism seems to have positive outcomes, the type of benefit needs to be qualified and it is possible for one type of benefit to be accompanied by a cost of another type (e.g., a risk-taking behaviour motivated by optimism can at the same time decrease anxiety and inhibit preventive measures).

completing such diverse tasks as making financial decisions for others [5], perceiving the nature of the interaction in personal relationships [6[¶]] and even forecasting the results of sport games [7[¶]]. With the exception of the prediction of events that are not self-related, the phenomenon of depressive realism has been confirmed by recent research. People diagnosed with mild or moderate depression make more accurate judgments in a variety of domains. The most striking evidence comes from the studies based on people's real-life experiences.

People with depression often report feeling misunderstood by the closest members of their families. This, in turn, may lead to increased feelings of loneliness and intensify depressive symptoms. It appears that people who are experiencing light or moderate depressive symptoms report perceiving their partners as less able to understand their thoughts and feelings [6[¶]]. Such perception is not the manifestation of a general negativity associated with depression, it turns out to be accurate. Without realizing it, partners of people with depression are less understanding than partners of people without depression. For instance, they lack empathic accuracy, that is, they do not correctly identify which emotions are felt by the person with depression in a conversation involving conflict.

Depression also seems to be closely related to a conscious awareness of the symptoms of one's own long-term condition. In an investigation of the relation between anosognosia (defined as lack of awareness about deficits associated with an illness or about the illness itself) and mood in Alzheimer's disease [8[¶]], anosognosia appeared to be negatively associated with depression: the more awareness people have of their disease, the more depressed they are. Although the nature of this association has not been explained, one can speculate that depression increases one's ability for realistic insight. The hypothesis is compatible with the results of another study, in which participants with depression seem to have better conscious access to another type of knowledge, obtained via visual statistical learning [9]. Depressive mood is induced in randomly selected participants by having them listen to a sad story. Participants are then asked to complete a visual statistical learning task. Depressive mood (whose intensity is measured using a clinical scale) does not seem to have a significant effect on the process of learning itself, but it affects the individual awareness of what has been learnt. This result is compatible with the hypothesis that better accuracy is related to cognitive insight into depression and could be explained by attention having a narrower focus and negative affect eliciting an analytic reasoning style [9].

A study on depressive realism and time perception [10^{¶¶}] investigates the effects of mild depression (measured by clinical scales) on time estimation and production, understood as assessing and generating time intervals of a particular duration. The results confirm depressive realism: whereas people with mild depression are accurate in estimating perceived and produced time, controls overestimate perceived time and underestimate produced time. This study suggests that people with mild depression perceive time more accurately than controls.

Can there be mediating factors in the depressive realism effect? One area in which this question has been examined is the accuracy in identifying uncontrollable situations [11]. The design of the experiment resembles the original study by Alloy and Abramson [2]. Participants are asked to estimate their control over a flashing light on the computer screen. The results seem to provide further support for the depressive realism phenomenon, suggesting that people in a depressive mood (measured according to the clinical scale) do not overestimate their control over independent events. However, in this case, the results can be explained by participants in a depressive mood being more passive or hesitant in exhibiting their reactions. When this factor is

manipulated, the accuracy in the task is no longer mood dependent. Thus, the study leads us to conclude that realism is not actually linked to depression as a general mood disorder, but to co-existing factors such as, in this case, the level of cognitive activity.

The depressive realism effect is less clear or completely insignificant in studies centered on the prediction of future events, especially when the prediction is about circumstances concerning other people and not the self. Participants with depressive symptoms predict the results of football matches [7¹] less accurately than people with no depressive symptoms. This suggests that depression does not help forecast future events that are not self-related. How does depression affect self–other discrepancies in decision making? Participants with depression asked to read a variety of scenarios before making their own predictions and decisions [5] are less prone to optimistic bias when predicting other people’s decisions than participants without depression. However, the depressive realism effect is not evident when participants make decisions for other people. This result suggests that depression might be associated with increased sensitivity to social threats rather than with a general negative bias in cognitive functioning.

UNREALISTIC OPTIMISM: GOOD OR BAD?

The psychological literature has used inconsistent terminology when describing the phenomenon of unrealistic optimism, and this helps explain apparently conflicting experimental results [12¹¹]. First, researchers have largely ignored the distinction between absolute optimism (the erroneous belief that personal negative outcomes are less likely to occur than objectively warranted) and comparative optimism (the erroneous belief that personal risks are lower than those of other people or lower than average). Second, researchers have tended to conflate claims about biological adaptiveness (success in survival and reproduction), psychological adaptiveness (wellbeing and good functioning), and other forms of successful engagement with the physical and social environment.

‘Unrealistic optimism’ has become an umbrella term that covers a number of different phenomena. In the better than average effect [13], people believe that they are more virtuous, more talented and more compassionate than others, and less prone to error. In illusions of self-control [14], people believe that they can control events that are not under their control, especially when they are personally involved in the events [15]. In ‘overoptimism’ or the optimistic bias [16], people believe that they are

less likely to experience future negative outcomes, such as being involved in a car accident or contracting a serious disease, than it is objectively warranted. In illusions of superiority, people overrate their own performance relative to others in a variety of domains [17]. In general, people are affected by a positivity bias (self-enhancement and self-protection) and have overly flattering conceptions of themselves that are also resistant to negative feedback [14].

By and large, the literature accepts that unrealistic optimism is a real phenomenon. A plausible story about its neurobiology is becoming available, thanks to the new studies about the role of dopamine and vestibular stimulation in enhancing or inhibiting unrealistic optimism (see for instance Refs. [18,19,20¹²,21]). However, the claim that optimistic thinking leads to increased wellbeing, better functioning or enhanced health is often challenged [22]. In conditions of uncertainty and risk, some instances of optimism lead people to make better decisions by helping avoid more costly mistakes and contribute to survival and flourishing, bringing both cognitive and evolutionary advantages [23]. For instance, a study found that people with narcissism outperform controls in making decisions when they need to forego an immediate reward for a future benefit, ignoring misleading information [24]. Overconfidence provides status benefits even when one’s actual ability is revealed to others: people are not socially sanctioned for their overconfidence [25].

However, optimism has drawbacks as well, and these are being increasingly examined in the psychological literature. Here are two examples, the first concerning health and the second concerning success in romantic relationships. Unrealistic optimism about health prospects can have immediate psychological benefits, as people are less worried about their future if they think that they are unlikely to suffer from a disease. But there are also significantly bad consequences when people underestimate the risk of suffering from a certain condition and fail to adopt preventive measures that would improve their health prospects [12¹¹]. For instance, the belief that one is at low risk of negative outcomes leads to bad decisions that may have serious implications, such as the decision to continue smoking due to the belief that one is unlikely to suffer from lung cancer or the decision not to use contraception due to the belief that one is unlikely to contract sexually transmitted diseases [16]. Although a positive outlook generally supports the wellbeing of people affected by serious conditions and predicts more successful therapeutic interventions, realistic attitudes to chronic degenerative conditions seem to be more beneficial than optimistic ones [26¹³].

Traditionally, optimism has been regarded as beneficial in ensuring the success of romantic relationships, because the optimistic biases that apply to the self are often extended to romantic partners who are thought to be more attractive, intelligent and talented than they actually are (this effect is sometimes called the love-is-blind bias). And when people have a rosy view of how attractive and talented their partners are, they are more likely to enjoy a satisfying and lasting relationship [27]. However, positive illusions have also been found to generate negative relational outcomes. For instance, the love-is-blind bias seems to be correlated with anxious jealousy, that is, the tendency to imagine a partner's infidelity and ruminate about it, experiencing negative feelings as a result [28]. And although a general disposition towards optimism leads to the adoption of more constructive approaches when difficulties in the relationship emerge, having excessively optimistic expectations about a relationship can lead to disappointment and emotional distress in situations of conflict [29*].

CONCLUSION

The broad thesis supported by the classic psychological literature on realism and optimism seems to be confirmed by the recent studies: people with depression are able to make more accurate judgments and more realistic predictions in some contexts, and nonclinical samples have overly optimistic beliefs about themselves and their own future prospects.

But some qualifications are in order. The studies we have reviewed adopted different methodologies and relied on different construals of depressive realism and unrealistic optimism, and in some studies the sample of participants was very small. Future research is needed to replicate the findings in more natural settings with bigger samples and different populations. On the basis of the recent psychological literature, it is justified to believe that depressive realism is a real phenomenon that applies to self-related information as opposed to other-related information, and to estimates of present circumstances as opposed to predictions of the future. In sum, the assessment of people with depression is more accurate (compared to that of control groups) when the assessment concerns one's own, rather than another's, situation: one's relationships, state of health, knowledge and control over external events. The effect seems insignificant when estimates relate to self-detached processes of guessing, forecasting the future, as well as making decisions that might be of practical importance for other people. Similarly, inconsistent results about

unrealistic optimism may be obtained if different forms of optimism are conflated and for this reason it is important to acknowledge that the phenomenon of optimism comprises a number of distinct illusions and biases, each of which deserves independent in-depth analysis. Optimism is confirmed in areas such as predictions of future health, and evaluations of the positive features (attractiveness, moral character and talents) of oneself and of one's romantic partner.

As initially hypothesized, realistic beliefs and predictions about the self are thought to have an adverse effect on wellbeing and functioning, and optimistic ones are shown to be psychologically adaptive in some circumstances. For instance, differently from healthy controls, people with major depressive disorder show no optimistic bias when they update their beliefs about the likelihood of an unpleasant life event happening to them in the light of relevant statistical information [3]. That suggests that positive illusions may contribute to mental health. However, a blanket recommendation to give in to optimism does not guarantee happiness, success or mental health. Excessive optimism can become problematic and lead to poor strategic planning, disillusionment and disappointment, and risky behaviours.

Acknowledgements

The authors acknowledge the support of the European Research Council under the ERC Consolidator grant agreement number 616358 for a project called Pragmatic and Epistemic Role of Factually Erroneous Cognitions and Thoughts (PERFECT).

Financial support and sponsorship

None.

Conflicts of interest

None.

REFERENCES AND RECOMMENDED READING

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

1. Taylor SE, Brown JD. Illusion and well being: a social psychological perspective on mental health. *Psychol Bull* 1988; 103:193–210.
2. Alloy LB, Abramson LY. Judgment of contingency in depressed and non-depressed students: sadder but wiser? *J Exp Psychol Gen* 1979; 108:441–485.
3. Korn CW, Sharot T, Walter H, *et al.* Depression is related to an absence of optimistically biased belief updating about future life events. *Psychol Med* 2014; 44:579–592.
4. Garrett N, Sharot T, Faulkner P, *et al.* Losing the rose tinted glasses: neural substrates of unbiased belief updating in depression. *Front Hum Neurosci* 2014; 8:639.
5. Garcia-Retamero R, Okan Y, Maldonado A. The impact of depression on self-other discrepancies in decision making. *J Behav Decis Mak* 2015; 28:89–100.

6. Gordon AM, Tuskeviciute R, Chen S. A multimethod investigation of depressive symptoms, perceived understanding, and relationship quality: depressed and misunderstood? *Pers Relatsh* 2013; 20:635–654.
A series of studies investigating the impact of depressive symptoms and mood on personal relationships. The feeling of being less understood is not the manifestation of a negative bias – people with depression are less understood by their partners than people without depression.
7. Jain K, Bearden JN, Filipowicz A. Depression and forecast accuracy: evidence from the 2010 FIFA World Cup. *Int J Forecast* 2013; 29:69–79.
An original study examining the relation between depressive symptoms and accuracy in forecasting sport games. The results show that people with depression make less accurate predictions than controls.
8. Mograbi DC, Morris RG. On the relation among mood, apathy, and anosognosia in Alzheimer's disease. *J Int Neuropsychol Soc* 2014; 20:2–27.
In this interesting review article, the authors explore the relationship between depression, apathy and anosognosia in Alzheimer's disease. Depressed mood is found to be associated with deeper awareness of one's own symptoms.
9. Bertels J, Demoulin C, Franco A, Destrebecqz A. Side effects of being blue: influence of sad mood on visual statistical learning. *PLoS One* 2013; 8:1-11.
10. Kornbrot DE, Msetfi RM, Grimwood MJ. Time perception and depressive realism: judgment type, psychophysical functions and bias. *PLoS One* 2013; 8:1-9.
A thought-provoking study investigating the depressive realism effect in a series of time estimation and time-generating tasks. The results provide strong evidence for the thesis that people with depression are more accurate in estimating time.
11. Blanco F, Matute H, Vadillo MA. Mediating role of activity level in the depressive realism effect. *PLoS One* 2012; 7:1–8.
12. Shepperd JA, Klein WMP, Waters EA, Weinstein ND. Taking stock of unrealistic optimism. *Perspect Psychol Sci* 2013; 8:395–411.
An article aiming to provide some conceptual clarification of 'unrealistic optimism'. It makes an important distinction between absolute and comparative optimism that helps identify the reasons for conflicting results in previous studies.
13. Brown JD. Understanding the better than average effect: motives (still) matter. *Pers Soc Psychol Bull* 2012; 38:209–219.
14. Hepper E, Sedikides C. Self-enhancing feedback. 2012. Available at <http://eprints.surrey.ac.uk/id/eprint/732627>. [Accessed 10 October 2014]
15. Yarritu I, Matute H, Vadillo MA. Illusion of control: the role of personal involvement. *Exp Psychol* 2014; 61:38–47.
16. Lench HC, Bench SW. Automatic optimism: why people assume their futures will be bright: automatic optimism. *Soc Pers Psychol Compass* 2012; 6:347–360.
17. Wolpe N, Wolpert DM, Rowe JB. Seeing what you want to see: priors for one's own actions represent exaggerated expectations of success. *Front Behav Neurosci* 2014; 8: 232.
18. Simmons JP, Massey C. Is optimism real? *J Exp Psychol Gen* 2012; 141:630–634.
19. Shah P. Toward a neurobiology of unrealistic optimism. *Front Psychology* 2012; 3:344.
20. McKay R, Tamagni C, Palla A, et al. Vestibular stimulation attenuates unrealistic optimism. *Cortex* 2013; 49:2272–2275.
In this very interesting study, vestibular stimulation, a technique known to temporarily inhibit anosognosia, is also shown to attenuate the effects of unrealistic optimism. This shows that anosognosia may be an exaggerated form of unrealistic optimism.
21. Blackwell SE, Rius-Ottenheim N, Schulte-van Maaren YWM, et al. Optimism and mental imagery: a possible cognitive marker to promote well being? *Psychiatry Res* 2013; 206:56–61.
22. Schwarzer R, Warner LM. Perceived self-efficacy and its relationship to resilience. In: Prince-Embury S, Saklofske DH, editors. *Resilience in children, adolescents, and adults*. New York: Springer; 2014. pp. 139–150.
23. Johnson DDP, Blumstein DT, Fowler JH, Haselton MG. The evolution of error: error management, cognitive constraints, and adaptive decision-making biases. *Trends Ecol Evol* 2013; 28:474–481.
24. Byrne KA, Worthy DA. Do narcissists make better decisions? An investigation of narcissism and dynamic decision-making performance. *Pers Individ Differ* 2013; 55:112–117.
25. Kennedy JA, Anderson C, Moore DA. When overconfidence is revealed to others: testing the status-enhancement theory of overconfidence. *Organ Behav Hum Decis Process* 2013; 122:266–279.
26. Hurt CS, Burn DJ, Hindle J, et al. Thinking positively about chronic illness: an exploration of optimism, illness perceptions and well being in patients with Parkinson's disease. *Br J Health Psychol* 2014; 19:363–379.
In this study, it is argued that general optimism and positive illness perceptions are beneficial in that they enhance wellbeing. However, positive perceptions specific to chronic degenerative conditions add nothing to the effects of general optimism and may fail to support adaptive coping.
27. Murray SL, Holmes JG. A leap of faith? Positive illusions in romantic relationships. *Pers Soc Psychol Bull* 1997; 23:586–604.
28. Swami V, Inamdar S, Stieger S, et al. A dark side of positive illusions? Associations between the love-is-blind bias and the experience of jealousy. *Pers Individ Differ* 2012; 53:796–800.
29. Neff LA, Geers AL. Optimistic expectations in early marriage: a resource or vulnerability for adaptive relationship functioning? *J Pers Soc Psychol* 2013; 105:38–60.
In this study, the authors distinguish between general dispositional optimism and relationship-related optimism. The former supports constructive approaches to difficulties emerging in the relationship, but the latter makes it harder for the partners to cope with such difficulties.