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Knots and black holes: why we're all prone to madness and what we can do about it

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ABSTRACT People from all walks of life can suffer from mental health problems such as low mood, anxiety, obsessive-compulsive problems, even hearing voices. In extreme circumstances, people can begin to fear that other people are plotting to harm them, and some of us even take our own lives. While it is overwhelmingly true that traumatic experiences or on-going deprivation or abuse are possible factors that contribute to psychological problems, there remains an apparent capriciousness to mental health problems. Some people seem to rise above trauma; other people are plagued by great misery without obvious external causes. There is a tendency to explain these differences as reflecting personal, even biological, vulnerabilities. This article is published as part of a collection entitled "On balance: lifestyle, mental health and wellbeing".

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Normal psychological processes can trap us and tangle us in knots. Because we repeat things that are rewarding or which offer us temporary relief, we can get caught up in knots—avoiding frightening situations or using idiosyncratic rituals to manage our anxieties; solutions that end up causing more problems than they solve. Because we actively make sense of the world, and because the framework of understanding that we develop shapes our perceptions, we can find our perspective on the world, our self-concept and the future can spiral into black holes of depression or paranoia from which it is difficult to escape. This view of mental health implies that we should not so much try to "cure" so-called "mental illnesses" (although of course people in distress deserve all our help), but rather steer our way in life, recognising and navigating these inevitable traps—and adjusting, tweaking, our response to events on the basis of mindful reflection. Untangling knots or escaping from the gravity of a black hole is obviously hard work. But we should not regard this as "treating" supposed "disorders", because these knots and black holes are part of the landscape of our complex psychology as opposed to abnormal pathologies. When changes at a personal level are needed, we could describe overcoming these problems as restoring balance and perspective in our lives. That perspective also demands a clear-sighted recognition that, many times, the root causes of our emotional distress lie not in personal idiosyncrasies, and certainly not in individual pathology, but rather in our exposure to social inequity or abuse.

Social determinants of mental health and psychological wellbeing

There are many reasons why psychological health should be a priority for the government (Kinderman, 2015b), and there is an absolute moral imperative to protect the mental and psychological health of citizens, and especially children. Psychological health problems represent the largest single cause of disability in the United Kingdom. The cost to the economy is estimated at £105 billion a year (Mental Health Task Force, 2016), partly because poor psychological health leads to higher costs in physical health care. For example, the costs of physical health care for people with Type 2 diabetes are 50% higher for those individuals reporting poor psychological health (Mental Health Task Force, 2016). Psychological issues also impact on at least six of the ten leading risk factors for physical disease: unsafe sex, tobacco use, alcohol use; obesity, high blood pressure and high cholesterol levels (World Health Organization, 2003). But, while psychological health should be a priority for the NHS and health services, we cannot separate our mental health from the social context. Social, economic and cultural environments clearly impact upon our physical and psychological health (Dahlgren and Whitehead, 1991).

What is true for physical health is even more powerfully true for our psychological health. Many social and environmental factors are either direct causes of mental health problems or substantially increase our risk of developing them. These include: poverty in childhood; social inequality; migration and belonging to an ethnic minority; early separation from parents; sexual, physical and emotional abuse in childhood; and bullying in schools (Bentall, 2016). Our mental health is affected by debt, unhappy marriage, excessively demanding work and the threat of unemployment. Relationships and a sense of meaning and purpose in life are perhaps the most significant predictors of life satisfaction (Pontin et al., 2013). As Professor Bentall (2016) recently noted, "arguably the biggest cause of human misery is miserable relationships with other people, conducted in miserable circumstances". Indeed, Bentall and colleagues have synthesised the findings of a large number of epidemiological studies and suggested that the association between childhood misfortune and experiencing psychosis in later life is almost as statistically significant as the link between smoking and specific kinds of lung cancer (Varese et al., 2012).

Brain disease … or human responses to life challenges?

We are repeatedly exposed to messages that reinforce the idea that serious mental illness is merely a brain disease (Kinderman, 2015a). However it seems entirely logical that the abuse of a child will affect their developing brain, as well as their developing sense of self, their trust in others, and their ability to regulate emotions, as well as a host of other psychological mechanisms. It is unsurprising that experiences of deprivation and abuse affect brain structure and function, since our brain is the organ with which we learn to respond to the world, and important to note that this mechanism may explain many of the abnormal neurological findings that have been reported for people using psychiatric services and assumed to imply underlying biological vulnerabilities. In my view, the pervasive and seductive idea that our more distressing emotions and behaviours are best understood as symptoms of illness is a harmful myth (Kinderman, 2014).

Both the general public and leading medical journals—not the usual critics of traditional psychiatric thinking—now question the creeping medicalisation of normal life, and criticise the reliability, validity, utility and humanity of conventional psychiatric diagnosis (Lancet, 2012). While it is important that we define, identify and measure the phenomena we are attempting to study and the problems for which people seek help, we confuse the picture when we use the language of medical disease to describe a normal and understandable response to traumatic or distressing circumstances.

The reliability of statistics for the American Psychiatric Association's influential DSM franchise have been falling steadily over time (Freedman et al., 2012), and these diagnoses appear to have little or no relationship with specific biological aetiological risk factors (Cross-Disorder Group of the Psychiatric Genomics Consortium, 2013). Indeed, Thomas Insel, the Director of the National Institute of Mental Health, recently suggested that traditional psychiatric diagnoses had outlived their usefulness (Insel, 2013). Reviews of the ineffectiveness and adverse effects of many psychiatric drugs, as well as of the effectiveness of evidence-based psychological therapies, have led many to call for alternatives to traditional models of care (Kinderman, 2014)

Some neuroscientists have asserted that all emotional distress can ultimately be explained in terms of the functioning of our neural synapses and their neurotransmitter signallers (Kandel, 1998). But this logic applies to all human behaviour and every human emotion—falling in love, declaring war, solving Fermat's last theorem. It clearly does not differentiate between distress—explained as a product of chemical "imbalances"—and "normal" emotions. All human behaviour can ultimately be explained in terms of neurological functioning. When it comes to unusual or distressing behaviour, it is clear that medication (like many other substances, including alcohol and street drugs) has a clear effect on our neurotransmitters, and therefore on our emotions and behaviour (Moncrieff and Cohen, 2006). But this is a long way from supporting the idea that distressing experiences are caused by imbalances in those neurotransmitters (Moncrieff, 2009).

Individual differences

Traditionally, the idea that mental health problems are "illnesses like any other" and that therefore people should not be blamed or held responsible for their difficulties has been seen as a powerful tool to reduce stigma and discrimination. But an emphasis on

biological explanations for mental health problems may be not only be scientifically invalid but actually unhelpful because it presents present problems as a fundamental, heritable (that is, transmissible to the next generation) and immutable part of the individual (Mehta and Farina, 1997). In contrast, a more genuinely empathic approach would be to understand how we all respond emotionally to life's challenges.

However, we do still need to return to the issue of individual differences—the question of why some people seem to be able to survive traumatic events, relatively unscathed, while, in contrast, other people live lives plagued by great misery without obvious external causes. From a social and psychological perspective, there are many kinds of vulnerability that could, at least partly, explain such differences. On a practical level, people differ in terms of the available social support, resources at their disposal, and practical experience of solving problems in their lives. Some of us are fortunate enough to live with the support of extended families, in secure accommodation and secure employment, with sufficient money and resources to meet immediate needs. These are clearly valuable assets in our emotional response to challenging events. Others find themselves dealing with what might be thought of as similar challenges without the support of friends and family, with inadequate practical resources, in the context of insecure or non-existent employment, and no activity that provides meaning and purpose These social factors predict great vulnerability—a fact often missed when "vulnerability" is seen only in terms of individual, biological, genetic difference.

On a psychological level, too, people differ in ways that convey vulnerability. The human brain is not only a complex biological structure, it is also a fantastically elegant learning engine. We learn to respond in certain ways to events and experiences, and there is increasing evidence that even severe mental health problems are not merely the result simply of faulty genes or brain chemicals. They are also a result of learning: a natural and normal response to the terrible things that can happen to us and shape our view of the world. Our mental health is largely dependent on our understanding of the world, our thoughts about ourselves, other people, the future, and the world. Biological factors, social factors, circumstantial factors—our learning as human beings—affect us because those external factors impact on the key psychological processes that help us build up our sense of who we are and the way the world works. If a person is raised in an environment where they learn that actions are unlikely to be rewarded; where threats are imminent and unavoidable; where there is little expectation of success or reward; and where failure or loss are highly likely, if not inevitable; then we will develop a framework for understanding and responding to challenging events that leaves us highly vulnerable.

Untying the knots

A great deal of clinical psychology deals with helping individuals recognise and change the unhelpful ways in which they have learned to respond to challenging events. Research that I have conducted has pointed to the role of rumination in the development of mental health problems (Kinderman et al., 2015). Although, for practical reasons, we were able to assess only a few quite specific issues, we found that (in a huge sample of over 32,000 people), the relationship between negative life events and mental health problems was relatively weak. People who reported negative life events were slightly more likely to report that they had experienced mental health problems. This, on the face of it, seems contradictory—because I have just outlined how important it is to understand how life events and social circumstances influence our mental health. However, when we looked at the role of rumination (the tendency to repeatedly think about negative events, to go over and over things), we found a very significant effect: most people who ruminated tended to be depressed and anxious if they had experienced negative life events, most people who were free from this psychological trait appeared to be free from depression and anxiety, even if they had experienced negative life events. Negative life events, combined with the psychological mechanism of rumination, constituted the deleterious combination.

This situation can obviously lead us into a trap. As we become more depressed, we tend to think in more depressive ways—we change the way we think (Beck et al., 1979). Like interstellar dust spiralling into a gravitational black hole and thereby increasing the gravitational force, the negative effects of rumination drag our thoughts down and further lower our moods. We need to know much more about these kinds of processes and whether or not people are born with different ways of looking at the world—I suspect that we do not differ that much from birth. There is plenty of research linking social deprivation with mental health problems (Bentall, 2016), and it is relatively easy to imagine how poverty and social deprivation, and sexual, emotional, or physical abuse could lead to disillusionment, hopelessness, and learned helplessness—to a belief that others are likely to be malevolent, and that there is little or nothing that one can do to improve or change one's lot in life.

It should not therefore be surprising if those of us brought up facing challenging social circumstances may develop ways of looking at the world which have consequences for our mental health. We can tie ourselves up in psychological knots, and we can find ourselves sinking into black holes. The metaphor of a knot makes sense to me. As humans, we are prone to the "confirmation bias", where we tend to seek out information that supports our pre-existing expectations. There are undoubtedly sound evolutionary reasons for this, but the confirmation bias can tie us up in knots. If we have learned that people are not to be trusted, then it makes sense to be suspicious, to look for signs of threat. But we are not just passive analysts of the world; we act in ways that are usually attempts to do the right thing, but can sometimes lead to further problems... We tend to avoid situations, for example, that make us anxious—and so we never learn that there is not, in fact, a threat. Understandably, we tend not to accept challenges if we are convinced we will fail—and so we miss out on opportunities. As a consequence of one of the most fundamental laws of psychology, we tend to repeat those things that are rewarding, and so we can find ourselves increasingly relying on compulsive rituals to cope with the anxiety generated by our obsessive ruminations.

These are knots that represent the complex nature of human psychology, as opposed to pathology that signifies illness. Part of the mythology surrounding mental health problems is the idea that such problems are inexplicable in human terms, and that therefore a biological explanation, involving pathology, seems reasonable. And indeed, the experience of mental health problems can be devastating. When people describe depression, for instance, there is a stark human desperation (Blair, 2016; Gask, 2016) that is easy to characterise as a different state of being. But when challenging social circumstances interact with common psychological mechanisms, mechanisms with inherent feedback loops, people can end up in very different—and sometimes very difficult—situations.

In physics, neutron stars occasionally end up so massive and dense that their gravitational field is so strong as to attract everything that strays into the immediate vicinity, even light. The effect is a vicious cycle or a feedback loop—as more matter becomes aggregated into the neutron star, its mass increases, leading to greater gravitational attraction and the cycle builds. When our moods drop, and our thinking takes on a negative

slant, a set of processes are triggered that could be likened to a gravitational attraction towards depression. When this happens, we change our appraisals of ourselves (a phenomenon observable even at the neurological level; Sarsam et al., 2013), our goals in life change, and we revise our expectations. Human psychology is fascinating. Our emotions make us human. However our psychology contains the potential to lead us into emotional traps—knots and black holes. This is why therapy is effective—it is perhaps better thought of as a collaborative process of untying knots, rather than providing a cure for mental illnesses.

Mental health and social justice

These psychological factors are helpful when supporting people who are struggling with mental health problems. However, we also need to ensure that our focus is equally on social justice. How we make sense of the world is important, but what is happening to us is equally important. At present, our mental health services struggle to help people in need, let alone address sufficiently these wider social issues. In part, this is because of an excessive focus on biomedical issues and a consequent failure to reflect all appropriate aspects of a genuinely biopsychosocial approach. People are routinely offered powerful drugs (which clearly have an important, but limited, role), but are rarely offered evidence-based psychological therapies or, even more sensibly, practical help to resolve real-world issues such as debt, employment issues, housing problems and domestic violence.

To promote genuine psychological health and well-being, we need to offer care and professional help to individuals, including providing suitable therapy for unhelpful thought-patterns. But we also need to protect and promote universal human rights (Kinderman, 2014). Because experiences of neglect, rejection and abuse are significant in the genesis of many problems, we need to redouble our efforts to protect children from emotional, physical or sexual abuse and neglect. Equally, we must protect both adults and children from bullying and discrimination: whether that is racism, homophobia, or discrimination based on sexuality, gender, disability or "mental health" or any other characteristic. If we are serious about preventing psychological health problems from developing, and about promoting genuine wellbeing, we must work collectively to create a more humane society—to reduce or eliminate poverty, especially childhood poverty, and to reduce financial and social inequality.

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Additional information

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