THE ROYAL SOCIETY

Published online 11 August 2004

Introduction: why do we need a science of well-being?

1. BACKGROUND AND CONTEXT TO THE MEETING

The Royal Society Discussion Meeting on 'The science of well-being: integrating neurobiology, psychology and social science' was convened to advance our scientific understanding of life going well; that is to say, a life characterized by health and vitality, by happiness, creativity and fulfilment, and by the sorts of positive social relationships and civic institutions that harness and enhance these desirable characteristics.

This fresh approach has a crucial contribution to make, because biomedical and behavioural sciences have long operated on the assumption that by studying disorder we would come to understand effective functioning. However, recent developments show this assumption to be false. Studying depression sheds no light on happiness; studying Alzheimer's disease tells us little about successful ageing; and studying learning disability is of scant value in understanding intellectual excellence. It has become clear that a scientific understanding of well-being is both necessary and timely. Consider, for example, how epidemics of eating disorder, substance abuse and depression currently afflict young people despite the best efforts of psychology, medicine and social science, which are all disorder-focused. A scientific understanding of how to live life well may help to shift the focus from remediation to effective intervention.

Many before us have contemplated happiness and the good life, from Aristotle and Spinoza, to Jeremy Bentham and Abraham Maslow. In the UK, outstanding recent contributions have been made by the social psychologist Michael Argyll in his work on happiness, by the psychiatrist Michael Rutter with his developmental studies of psychological resilience, and by economists Amartya Sen and Partha Dasgupta on the importance of nurturing human and natural resources to increase well-being. Most of the recent developments, however, have come from the USA, and this is reflected in our high proportion of American contributors who are acclaimed for their innovative work in the field.

It was our intention that a meeting held at an early stage in the development of this field in the UK would attract a fresh body of first-rate researchers. We anticipated that the impact of the scientific study of well-being would also reach well beyond basic research. Our society's scientists, educators, citizens and leaders would all benefit greatly from knowing how individuals and communities can thrive and flourish. By contrast, policies that focus on survival and damage limitation lead to a tragic waste of individual and national potential. It is promising that governments are beginning to identify well-being as a more pertinent goal than Gross National Product, and that the British government and policymaking bodies are now actively considering ways to increase human capability, resilience and social capital. Their efforts will surely be enhanced if scientists can offer a deeper understanding of the mechanisms by which individual and social factors produce a range of positive outcomes.

2. THE QUESTIONS WE EXPLORED

Among the questions our meeting sought to answer were the following. Why do people seek happiness and fulfilment? What is the adaptive value of positive emotions? What is the relationship between positive emotions, good health, creativity and high achievement? What are the individual and social determinants of positive outcomes? What is the influence of early life factors on disease resistance and psychological resilience? What are the neurobiological processes that mediate the effects of psychological and social factors on health and capability? How can we characterize the types of societies and value systems that encourage well-being and excellence in individuals, organizations and communities?

3. OUR WORKING DEFINITION OF WELL-BEING

For the purposes of the Discussion Meeting, we defined well-being in broad terms as 'a positive and sustainable state that allows individuals, groups or nations to thrive and flourish'. This means that at the level of an individual, well-being refers to psychological, physical and social states that are distinctively positive. Positive *psychological* states are exemplified by emotions such as happiness and contentment, attitudes such as generosity and empathy, and mental processes such as cognitive capabilities, interest and motivation. Positive *physical* states are characterized by vitality and physical capabilities, while positive *social* states include satisfying social bonds and loving relationships. Our definition of well-being also encompasses human resilience—the ability to survive and thrive in the face of the setbacks inherent in the process of living.

4. MEASUREMENT OF WELL-BEING

One of the fundamental means by which science progresses is the necessity to measure the concepts we seek to understand. So a key challenge facing us is how to measure positive states. Subjective well-being is typically measured in social and economic surveys using simple questions about present happiness or general life satisfaction, while psychologists tend to use more comprehensive scales to capture the various dimensions of subjective well-being. One of the controversies currently raging in the field relates to the measurement of positive emotions. The issue is whe-

One contribution of 12 to a Discussion Meeting Issue 'The science of well-being: integrating neurobiology, psychology and social science'.

© 2004 The Royal Society
doi:10.1098/rstb.2004.1519

ther we can rely on people's self-reports of their subjective experiences or whether we need objective measures of behaviour. Recent developments in psychophysiology and neuroscience offer the prospect of developing objective measures such as specific patterns of brain activation, which are highly correlated with self-reported subjective states. However, some would argue that while brain scans and other objective measures are valuable for advancing our understanding of the anatomy and physiology of emotions, the subjective experiences themselves remain the 'gold standard' units of measurement.

5. WHY NOW?

With any significant development in science or culture, it is instructive to ask 'why now?' So why is there now such a surge of interest in happiness and well-being? This question presents us with an apparent paradox, because in many ways we have never had it so good. Many nations have more wealth than ever before, better access to education and health care, more travel and leisure opportunities, and a long period of relative peace. Yet, in this era of apparent plenty, many people seem to be generally dissatisfied with their life, and there are increasingly high rates of depression, crime and social disintegration. This widespread malaise is reflected in the predominant focus of social and biomedical sciences on dysfunction and pathology, and the tacit assumption that supports this approach is the belief that if we could only do away with the negatives, we and our world would be in good shape. It is for this very reason that we need a science of well-being, because living life well is not simply about moving from a state of disorder to a state of adequate function or 'getting by'. Our new science must be ambitious and must aim to increase health, happiness and high achievement in the majority of the population. For health is not simply the absence of disease, just as happiness is more than the lack of misery, and towering strengths cannot be fostered by putting all of our resources into the remediation of deficits. It is on this premise that our Discussion Meeting focused not on those with serious problems, but on understanding and improving the well-being of the great majority of our citizens and institutions. Judging by the recent interest shown in the popular media, there is a deep and pervasive demand for accessible information about how to live life well. Only a genuinely *scientific* exploration of well-being can provide a source of trustworthy information to guide interventions.

6. OUR AIMS

Our specific aims were twofold: first, to bring together outstanding researchers and practitioners in this multidisciplinary field, who could introduce us to the latest theoretical concepts and scientific evidence; second, to encourage both novice and established scientists to contribute to this new and promising endeavour. Advances in our understanding of well-being require a holistic, multidisciplinary approach, and consequently we have included a wide range of exciting developments, some focusing on well-being at an individual level, others at a societal level. The presentations covered four broad domains: evolution and development; psychology; neuroscience and physiology; and social science.

Despite the diversity of the invited papers, it is clear that a fuller understanding of the causes and consequences of a state of well-being requires a far broader approach than we were able to offer on this occasion. For example some important areas, such as the role of nutrition and religious beliefs and practices, received only limited coverage. Other areas, such as the roles of exercise and the physical environment, including the contribution of the arts to human flourishing, were not addressed. Nevertheless, like the Discussion Meeting itself, we believe these Royal Society Proceedings offer a fine foundation and a powerful inspiration for future work on well-being, across diverse fields of research and practice.

Felicia A. Huppert[1]
Nick Baylis[2]
Barry Keverne[3]

May 2004

[1]*Department of Psychiatry, University of Cambridge, Box 189, Addenbrooke's Hospital, Cambridge CB2 2QQ, UK*
[2]*Department of Social and Developmental Psychology, Faculty of Social and Political Sciences, University of Cambridge, Free School Lane, Cambridge CB2 3RQ, UK*
[3]*Department of Zoology, University of Cambridge, Downing Street, Cambridge CB2 3EJ, UK*