Evolutionary Psychology

While evolutionary psychology is a fascinating science, it is also often misunderstood. In this highly acclaimed undergraduate textbook, Workman and Reader assume no prior knowledge of evolution and instead carefully guide students towards a level of understanding where they can critically apply evolutionary theory to psychological explanation. The authors provide an engaging and balanced discussion of evolutionary psychology without committing to a specific school of thought, and organise chapters around topics familiar to psychology students. Retaining the successful structure and pedagogy of previous editions, the text has been updated to include the latest advances in the field, with new material added on homosexuality, a consideration of feminist criticism, grandparental investment, and developments in neuroscience and epigenetics. The fourth edition is now in full colour, with new figures and photographs, revised boxed case studies, additional discussion questions, and an updated online test bank.

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Evolutionary Psychology

An Introduction

Fourth edition

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Preface to the Fourth Edition

Evolutionary Psychology – Where Are We Now?

It's now 17 years since we published the first edition of *Evolutionary Psychology*. Readers loyal to our efforts will be pleased to see that we have maintained our primate cover tradition, albeit with a slight modification, for our latest incarnation. Having made use of three anthropoid apes, chimpanzee, gorilla and orangutan, for previous editions, we have now made use of a monkey – the mandrill. This primate is, however, no typical monkey. The alpha male mandrill is the most colourful of all of the mammals on Earth. While we generally consider birds to be the most colourful of land animals, this mandrill certainly gives peacocks and birds of paradise a run for their money. The inclusion of this colourful primate is not an act of pure self-indulgence (or even to highlight the fact that this edition is the first to be published in full colour). The Mandrill's flamboyant features makes a point about how evolution works. It is a product of sexual selection, Darwin's other prime mover of adaptive change, which takes animal morphology to places natural selection cannot go. This vibrant face looking out at you tells a story, not only of his male ancestry, but also of the preferences of his female ancestors. It is humbling sometimes for men to realise that any features they might feel proud of can often be traced back to the selective choices of their female ancestors. But what's good for the goose is also good for the gander, and female features of which they, in turn, are also proud, can equally be traced back to the choices of their male ancestors. We are all tied together by the predilections and behaviours of our ancient progenitors.

The publication of a new edition is not of course just down to the feeling that we need to refresh the cover image. Evolutionary psychology is such a rapidly developing field that it is difficult even for experts to keep on top of advancements. Some of these developments have delved into areas of controversy and sensitivity. An example of this is the recent conception of the 'Dark Triad' (Machiavellianism, psychopathy and narcissism) and the possibility that having this constellation of traits may allow some individuals to exploit others. A number of experts have suggested that this might have been an alternative adaptive lifestyle under some ancestral conditions. We explore the Dark Triad in Chapters 8 and 12. Another area where many hold strong feelings is the notion that evolutionary theory can be used to explain the existence of homosexuality. Is it possible that the proportion of 'gay' and 'straight' people is maintained in a population by selective pressures? We consider recent cross-cultural research which suggests this just might be the case, at least for men, in Chapter 3. Interestingly, nearly all of the research into this area has been based around men. We hope that, by the time we publish our fifth edition, researchers will have devoted as much effort to the relationship between sexuality and evolution in women.

One theoretical approach which is of growing importance to evolutionary psychologists is that of life history theory. This is the idea that organisms make 'decisions' based on their early environment as to which path they should take and, in particular, how much time and energy individuals are likely to devote to growth, learning and reproduction. Evolutionists consider that differences in early social experiences can have knock-on effects on the life history strategical paths

individual humans take and suggest these might once have been adaptive. Life history theory has had a growing influence on the path that evolutionary psychology has taken, and this is reflected by the greatly increased space we devote to this conception of development, including Chapters 1, 6, 7, 10, 12 and 13.

In previous editions our chapter on social behaviour among non-kin focused almost exclusively on prosocial behaviour. Considerations of developments in our understanding of antisocial behaviour (both theoretical and empirical) have led to an expansion of Chapter 8 to include such findings. You might be surprised to read about the recent counter-intuitive findings with regard to aggressive responses between the sexes.

Behavioural genetics is not, strictly speaking, a part of evolutionary psychology. Yet the recent technological developments in this highly specialised field are likely to have a profound influence on the direction evolutionary psychology will take in the coming years. When we published our first edition, most evolutionary psychologists were not even interested in genes (contrary to popular belief). The new technology that has allowed for the development of genome-wide association (GWA) studies means that geneticists can now scan large proportions of the entire genome rapidly in huge samples. Findings so far suggest that differences in behavioural traits are supported by large numbers of genes working in concert. In fact, very recently it has been discovered that traits such as schizophrenia and extraversion are both related to thousands of genes. As readers will see in Chapters 2 and 13, GWA studies is a highly technical field of research. But don't worry, we'll be gentle with you as we guide you through the concepts you really need to have some understanding of. In fact, we have always endeavoured to reassure readers that they require no more than a basic knowledge of psychology and biology in order to follow our text. Despite the increasingly technology-led developments in evolutionary biology, we hope we have managed to maintain this tradition.

Another rapidly developing area of genetics – behavioural epigenetics – considers how lifetime experiences can switch on and off particular sets of genes. Advances here, which we outline in Chapter 2, have helped to flesh out our understanding of the mechanisms involved in life history trajectories. Surprisingly, some of these epigenetic effects can be transgenerational. This means that how your parents lived might have an effect on your current behaviour. An example of this is the finding that fathers who smoke at an early age are more likely to have children who eat more on average. In some cases, it has even been found that the lifestyle of their grandparents can affect a person's behaviour.

Speaking of grandparents, the recent rise in interest of the 'grandmother hypothesis' is considered in Chapter 7. This fascinating hypothesis suggests that selective forces led to the human menopause in order to allow women to shift from maternal to grandmaternal investment in middle age. Historical records from Finland, for example, demonstrate that, during the eighteenth and nineteenth centuries, having a living grandmother greatly increased a baby's chances of survival. In fact, as in previous editions, we have avoided the age-old problem of assuming males are the norm that evolution works on and females are some sort of add-on (a recurring problem in textbooks on evolution). A study of the literature by feminist evolutionary psychologist Rebecca Burch suggested Workman and Reader devoted more attention to the role of women in evolution than other available textbooks.

Finally, we have updated our discussion of aspects of language and cognition (Chapters 9 and 10). For language we have reconsidered the notion that gestural communication arose prior to vocal language in our ancestors. This has always been a controversial view, but recent work on chimps has shown a rich use of gestures which might suggest this arose in a common ancestor prior

to our split with other primates. The functions of memory and problem solving are also reconsidered in the light of findings for 'simpler' animals. Is it possible that memory evolved in our ancestors to serve the same function as it does for modern-day slime moulds?

Who Should Read This Book?

As in previous editions, this book has largely been written with those who are studying psychology in mind. We also hope, however, that it will be of interest to those studying behavioural biology, and to anybody who has an interest in the relationship between evolution and the human condition. In contrast to many books which make use of evolutionary theory to illuminate behaviour, it is unnecessary for readers to have prior knowledge of the intricacies of natural selection, genetics or inclusive fitness theory. We have also tried to integrate many studies from 'traditional' psychology into our narrative. Hence, students of psychology will find themselves on familiar ground as we consider how the evolutionary approach can be used to enlighten developmental, social, cognitive and personality psychology.

Pedagogical Features

As for previous editions, we hope that the book's greatest pedagogical feature is the book itself. Our main aim has always been to explain the relevant concepts and research clearly through an enthusiastic narrative style. Despite our enthusiasm, we are not afraid to cast a critical eye on findings and interpretations where appropriate. We hope readers will likewise continue to question evidence placed before them.

At the end of each chapter we have provided a comprehensive summary outlining the critical theories and findings. This is followed by a series of **critical thinking** questions and further specialist reading. We hope that these will prove useful to instructors for teaching purposes. We have also updated our test bank of 280 **multiple-choice questions** (20 per chapter) to reflect all of the developments outlined above. These are available to instructors and can be used either for formative or summative assessment. Finally, new to this edition are PowerPoint **lecture slides** for instructors' use.

Acknowledgements

Finally, we would like to take this opportunity to thank all of the instructors and students who have made use of previous editions of our book and especially those who have provided feedback. Special thanks go to Professors Jerome H. Barkow and Frederick M. Toates both for their friendship and for their sage-like guidance on specific chapters. At Cambridge University Press we would especially like to thank Janka Romero, Melissa Shivers and Ilaria Tasisstro.