

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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Contents

List of Figures	vii
List of Tables	xiii
List of Boxes	xiv
Preface to the Fourth Edition	xvii
1 Introduction to Evolutionary Psychology	1
2 Principles of Evolutionary Change	29
3 Sexual Selection	55
4 The Evolution of Human Mate Choice	80
5 Cognitive Development and the Innateness Issue	113
6 Social Development	137
7 The Evolutionary Psychology of Social Behaviour – Kin Relationships and Conflict	163
8 The Evolutionary Psychology of Social Behaviour – Reciprocity and Conflict	189
9 Evolution, Thought and Cognition	219
10 The Evolution of Language	250
11 The Evolution of Emotion	284
12 Evolutionary Psychopathology and Darwinian Medicine	315

vi **Contents**

13 Evolution and Individual Differences	353
14 Evolutionary Psychology and Culture	389
Glossary	416
References	428
Index	476



Figures

1.1	A peacock displaying his beautiful train. © Georges Gobet/AFP/Getty Images.	2
1.2	Gregor Mendel tends his plants in his garden. © Bettmann/Getty Images.	6
1.3	Charles Darwin. © The Print Collector/Getty Image.	7
1.4	E. O. Wilson has a bit of a bug problem. © Rick Friedman/Corbis/Getty Images.	17
1.5	Cave of the Hands: prehistoric rock paintings of human hands. © Eye Ubiquitous/Universal Images Group/Getty Images.	21
1.6	Bison painting in Altamira caves, Santander, Cantabria, Spain. © VCG Wilson/Corbis/Getty Images.	22
2.1	Artificial selection has created a great range of domestic dog breeds from a primitive wolf-like ancestor in only a few centuries. © Compassionate Eye Foundation/David Leahy/Getty Images.	30
2.2	Punnett Square to demonstrate pea colour.	34
2.3	Human Evolution. Figure adapted from Goldsmith and Zimmerman © (2001), with permission from Wiley.	35
2.4	A range of early hominin skulls. © Jose A. Bernat Bacete/Moment/Getty Images.	38
2.5	Human evolution from the first hominins to modern humans. After Goldsmith and Zimmerman, 2001 with permission from Wiley.	39
2.6	Production of protein from DNA double helix in nucleus of cell. © Laguna Design Science Photo Library/Getty Images.	40
2.7	In addition to having close physical similarities, twins have very similar scores on intelligence tests. © JGI/Tom Grill/Getty Images.	43
2.8	This skeleton of a <i>Homo erectus</i> (<i>H. ergaster</i>), 'Turkana boy' (around 8 years old), is the most complete specimen of an archaic human ever discovered. © Tony Karumba/AFP/Getty Images.	46
2.9	Vervet monkeys frequently form grooming pairs. © Anup Shah/Stone/Getty Images.	50
3.1	Display of dominant male mandrill. © Thomas Kitchin & Victoria Hurst/Design Pics/Getty Images.	57
3.2	A male elephant seal dwarfs the surrounding female and pups. © Hal Beral/Corbis/Getty Images.	59
3.3	Harem size in relation to size of male. After Alexander et al. (1979).	59
3.4	A male barn swallow's long tail is a sign of good health and is attractive to females. © Vicki Jauron, Babylon and Beyond Photography/Moment/Getty Images.	62
3.5	Female chimpanzee with infant – but who's the father? © Long Zhiyong/Moment/Getty Images.	65
3.6	An African wild dog pack attacks a wildebeast. © Mark Deeble and Victoria Stone/Photodisc/Getty Images.	69
3.7	Male African widowbird displaying tail. © George Brits/Getty Images.	71
3.8	Widowbird average number of nests compared to tail length. Figure adapted from Drickamer and Vessy © (1992), with permission from McGraw-Hill.	72

viii List of Figures

3.9	Relationship between eye spots in a peacock's train and his mating success. Figure adapted from Petrie et al. © (1991), with permission from Springer Nature.	72
3.10	Red deer stags wrestling. © Amit Kumar/500px Prime/Getty Images.	74
4.1	Diagram of primate evolutionary tree, showing all of the primates mentioned in this chapter.	81
4.2	An alpha male chimpanzee (<i>Pan troglodytes</i>) grooms the eyebrow of another member of the group. © Robert Muckley/Moment/Getty Images.	82
4.3	A group of bonobos (<i>Pan paniscus</i>) engaged in mutual grooming. © Ger Bosma/Moment/Getty Images.	84
4.4	Family of Eastern Lowland Gorillas in the jungles of Congo. Guenterguni/iStock/Getty Images	85
4.5	Male and female African hamadryas baboons (<i>Papio hamadryas</i>) holding each other close. © Ger Bosma/Moment/Getty Images.	87
4.6	African jacana (<i>Actophilornis africana</i>) walking over sea rose leaves. © Christian Heinrich/Getty Images.	93
4.7	Preferred number of years younger or older for a potential spouse across five cultures. Figure adapted from Buss & Schmitt © (1993), American Psychological Association with permission.	97
4.8	Importance placed on chastity (no prior sexual intercourse) in a potential spouse. Figure adapted from Buss & Schmitt © (1993), American Psychological Association with permission.	100
4.9	The relative body and testis size of apes and humans. After Short (1979).	102
4.10	Results from Baranowski and Hecht demonstrating that men chose to meet significantly more women compared to women choosing men, both to date and to agree to have sex with. Figure adapted from Baranowski and Hecht © (2015), with permission from Springer Nature.	103
4.11	Number of sexual partners desired by males and females over various periods of time. After Buss and Schmitt (1993).	105
5.1	'Old-school' and 'modern' Legos used to create the Star Wars character Yoda. © Phillip Chin/WireImage/Getty Images; © ivanastar/iStock/Getty Images.	116
5.2	Jean Piaget. © Farrell Grehan/Corbis/Getty Images.	117
5.3	The epigenetic landscape. After Waddington (1957).	118
5.4	Apparatus used by Baillargeon 'Object permanence in 3½- and 4½-month-old infants'. Figure adapted from Baillargeon © (1987), American Psychological Association with permission.	121
5.5	Data from Baillargeon 'Object permanence in 3½- and 4½-month-old infants'. Figure adapted from Baillargeon © (1987), American Psychological Association with permission.	122
5.6	Konrad Lorenz and his 'children'. © Nina Leen/The LIFE Picture Collection/Getty Images.	125
5.7	Stimuli used by Johnson and Morton.	126
5.8	Embedded figures test.	131
6.1	Fake eyes on the lackey moth caterpillar (<i>Malacosoma neustria</i>) may be used to ward off predators. © Sandra Standbridge/Moment/Getty Images.	138
6.2	Kittens, like many mammals, like to play. © Auscape/Universal Images Group/Getty Images.	139

6.3	Bowlby believed that being deprived of human contact could negatively affect future relationships and mental health. © Ray Kachatorian/Stone/Getty Images.	143
6.4	Data from Tither and Ellis showing the age of menarche (in years) for sisters of families that broke up or stayed together. Figure adapted from Tither and Ellis © (2008), American Psychological Association with permission.	149
6.5	Richard Lewontin's thought experiment showing how heritability can be misleading. Adapted from Cognition, 56, Block, N. How heritability misleads about race. 99–128, © (1995), with permission from Elsevier.	151
6.6	By cooperating, children can achieve things that they could never achieve alone. © Susan.K./Moment/Getty Images.	156
7.1	Illustration of naked mole rats (<i>Heterocephalus glaber</i>) inside burrow. © Dorling Kindersley/Getty Images.	165
7.2	Our tendency to provide aid under life-and-death situations increases markedly, as does the coefficient of relatedness. Figure adapted from Burnstein et al. © (1995), American Psychological Association with permission.	168
7.3	Coefficient of relatedness between adopted children and their adopters, based on 11 Oceanic societies studied by Silk (1980; 1990).	170
7.4	Florida scrub jay – a species which is known to have 'helpers at the nest'. © Elizabeth W. Kearley/Moment/Getty Images.	172
7.5	r–K continuum of reproductive strategies. © Christopher Seufert Photography/Moment/Getty Images. © Rodrigo Friscione/Image Source/Getty Images. © James Johnstone/500px Prime/Getty Images. © Jessica Lee/EyeEm/Getty Images. © Alberto Ghizzi Panizza/Science Photo Library/Getty Images. © Ger Bosma/Moment/Getty Images.	174
7.6	<i>Amaurobius fenestralis</i> . © Photo by Ed Nieuwenhuys.	175
7.7	Young father with son from the Erbore (Arbore) tribe, Ethiopia, Africa. © Hadynyah/E+/Getty Images.	177
7.8	A comparison of help provided by four different categories of grandparent to their grandchildren. Evolutionary Psychology, 9, 3-24. Figure adapted from Danielsbacka et al. © (2011), Sage with permission.	179
7.9	Redrawn Trivers' model of parent-offspring conflict. After Trivers (1972).	183
8.1	Vampire bat (<i>Desmodus rotundus</i>), common to the Americas, taking blood from a goat. © Nicolas Reusens/Moment/Getty Images.	190
8.2	The bottlenose dolphin is a species which has been observed displaying complex cooperative behaviour in the wild. © Vicente Renovell/500px/Getty Images.	193
8.3	!Kung San girl (14 years old) being given an ostrich egg by her grandmother (75 years old) in the Kalahari, Namibia, southern Africa. © Martin Harvey/The Image Bank/Getty Images.	194
8.4	Yanomamö boy with bow and arrow, the Amazon rainforest, Venezuela. © DeAgostini/Getty Images.	197
8.5	Illustration of bacteriophages infecting bacteria. © Christopher Burgstedt/Science Photo Library/Getty Images.	200

x List of Figures

8.6	The prisoner's dilemma – 'pay-off matrix' showing four possible outcomes.	201
8.7	Adult male chimpanzees are capable of lethal aggression. © Clive Bromhall/Photodisc/Getty Images.	207
8.8	Example of an allocation matrix from Tajfel's experiment.	210
8.9	Predicted likelihood of sexual harassment occurring in men and women who score high and low on Machiavellianism. Redrawn from Zeigler-Hill, et al. The Dark Triad and sexual harassment proclivity, <i>Personality and Individual Differences</i> , 89, 47–54 © (2016), with permission from Elsevier.	212
8.10	Sex differences in jealousy. <i>Psychological Science</i> , 3(4), 251–6. Figure adapted from Buss et al. © (1992), Sage with permission.	213
9.1	Ada Lovelace, mathematician and writer of the first computer program. © New York Public Library/Interim Archives/Getty Images.	221
9.2	Statue of Alan Turing in Manchester, where he lived, worked and died. © Christopher Furlong/Getty Images.	222
9.3	Some visual illusions.	225
9.4	Shadow illusion by Edward Adelson. ©1995, Edward H. Adelson.	226
9.5	TheDress. Image by Justin Broackes and Hilary Brown, adjusted with permission from Roman Originals. First published: Justin Broackes, 'How does a black and blue dress sometimes appear white and gold?', March 23, 2015, https://philosophyofbrains.com/2015/03/23/how-does-a-black-and-blue-dress-sometimes-appear-white-and-gold.aspx .	228
9.6	Slime mould <i>Physarum polycephalum</i> on a tree branch. © Stephane de Sakutin/AFP/Getty Images.	230
9.7	Stimuli used in Wason's selection task.	240
9.8	Charnov's marginal value theorem.	247
10.1	Bees communicate the location of a nectar source using the round dance (the roughly heart-shaped paths) and the waggle dance (the wiggly line through the middle). © Dorling Kindersley/Getty Images.	251
10.2	A prairie dog making an alarm call. © Marcus Gijsbers/500px/Getty Images.	252
10.3	Regions of the brain involved in language processing showing Broca's area, Wernicke's area and the related areas involved in hearing and articulation.	255
10.4	Linguist and political activist Noam Chomsky. © Photofusion/Universal Images Group/Getty Images.	258
10.5	A Mandelbrot set. © Tim Bird/Moment/Getty Images.	261
10.6	Sue Savage-Rumbaugh and Kanzi. © Laurentiu Garofeanu/Barcroft USA/Barcroft Media/Getty Images.	266
10.7	A sample question from the Wug test.	267
10.8	The hyoid bone is important for speech. © Sebastian Kaulitzki/Science Photo Library/Getty Images.	269
10.9	The different stages of development for a number of hominids. From 'Language and life history: a new perspective on the development and evolution of human language' by John L. Locke and Barry Bogin, in <i>Behavioral and Brain Sciences</i> , 29(3), © (2006), Cambridge University Press. Reproduced with permission.	272
10.10	The descent of language – the Indo-European family tree. Republished with permission of Princeton University Press, from <i>The Horse, the Wheel and Language</i> by David W. Anthony, 2007; permission conveyed through Copyright Clearance Center, Inc.	274

10.11	Ratio of neocortex to group size in a number of non-human primate communities. From Human Evolutionary Psychology © Louise Barrett, Robin Dunbar and John Lycett 2002. Reproduced with permission of the Licensor through PLSclear.	277
11.1	Darwin was regularly caricatured by popular magazines of the day. © duncan1890/DigitalVision Vectors/Getty Images.	285
11.2	Woodblock prints of facial expressions of human emotions from <i>The Expression of the Emotions in Man and Animals</i> by Charles Darwin (1872). © ZU_09/DigitalVision Vectors/Getty Images.	288
11.3	Plutchik's wheel of emotions whereby we have eight primary emotions which occur in polar opposites and secondary emotions arise from combinations of these primary states. © Artellia/Alamy Stock Vector.	290
11.4	Surprise, anger, sadness, disgust, fear, happiness – Lance Workman posing six universal emotional expressions. © Lance Workman/Routledge.	292
11.5	Chimpanzees showing a range of emotional expressions – smiling, laughing and bored? © Fuse/Corbis/Getty Images.	293
11.6	The development of facial signals in primates. After van Hooff (1972).	294
11.7	Locationist view of correspondence between emotional processing and brain regions, with specific areas of the brain being responsible for specific emotions. From 'The brain basis of emotion: a meta-analytic review' by Linquist et al., in Behavioral and Brain Sciences, 35(3) © (2012), Cambridge University Press. Reproduced with permission.	295
11.8	The orbitofrontal cortex and limbic system of the human brain (together with other components of the limbic system). Reprinted from Neuron, 69, 664–79, Kenny, P.J. Reward mechanisms in obesity: new insights and future directions. 69, 664–79, © (2011), with permission from Elsevier.	297
11.9	Computer reconstruction of passage of the tamping iron through the head of Phineas Gage. Patrick Landmann/Science Photo Library.	299
11.10	Two chimeras showing fear. Photo by Sara Caro.	301
11.11	Cross-culturally, when people smile, they use exactly the same muscles in exactly the same way, and we all recognise this as a sign of friendship. © adl21/E+/Getty Images.	304
11.12	Model of upward spiral theory of lifestyle change Perspectives on Psychological Science. 13(2), 194–9. Figure adapted from Frederickson and Joiner © (2018), Sage with permission.	309
11.13	Nesse's proposed 'phylogeny of emotions'. Reprinted from R. M. Nesse, 'Natural Selection and the Elusiveness of Happiness', Philosophical Transactions of the Royal Society of London Series B, Biological Sciences 359 (2004), 1341. © 2004 Royal Society Publishing.	311
12.1	Is there a mismatch between the lifestyle of our ancient ancestors and the lifestyle we have developed recently? © Dorling Kindersley/Getty Images.	316
12.2	Computer-generated illustration of the cholera bacterium (<i>Vibrio cholerae</i>). © Kateryna Kon/Science Photo Library/Getty Images.	318
12.3	HIV virus in the bloodstream. © Sciepro/Science Photo Library/Getty Images.	320
12.4	Microscopic view of sickle cells causing anaemia disease. © Stocktrek Images/Getty Images.	322
12.5	Masai warriors in traditional clothing demonstrating their weapons. © Borchee/E+/Getty Images.	326

xii List of Figures

12.6	Three vervet monkeys (<i>Cercopithecus aethiops</i>), including a dominant male with blue testes. © Beck Photography/Aurora Photos/Getty Images.	330
12.7	© Workman, L., Akcay, N., Reeves, M. and Taylor, S. (2018). Blue Eyes Keep Away the Winter Blues: Is Blue Eye Pigmentation an Evolved Feature to Provide Resilience to Seasonal Affective Disorder? Open Access Journal of Behavioural Science & Psychology 1 (1), 180002.	335
12.8	Would you be happier if you lived a lifestyle similar to that of our ancient ancestors? © Plougmann/iStock/Getty Images.	336
12.9	All four of the identical girls known as the Genain quadruplets developed schizophrenia.	338
12.10	Average rates of grey matter loss in normal adolescents and in schizophrenia. Figure from Thompson et al. © (2001), with permission from National Academy of Sciences, U.S.A.	340
12.11	If you were offered a large sum of money now or twice as much in a year's time, which would you choose? © Withaya Prasongsin/Moment/Getty Images.	344
12.12	Diagram of FDS Model. From Evolutionary Psychopathology: A Unified Approach by Del Giudice, M. © (2018). Reproduced with permission of Oxford University Press through PLSclear.	349
13.1	Professor Hans Eysenck of the Institute of Psychiatry, King's College Hospital, London, using a Swedish machine for measuring eye blinks in 1968. © Chris Ware/Keystone/Getty Images.	357
13.2	Some researchers have argued that psychopathic tendencies might be adaptive in the business world. © Nicolas McComber/E+/Getty Images.	365
13.3	All humans share 99 per cent of their genes. © Kentoh/Shutterstock Images.	367
13.4	Bright green grasshopper matching background. © Cuhrig/E+/Getty Images.	372
13.5	Personality order and personality receptivity to evolutionary theory by year and birth order. Reprinted from <i>Psychological Inquiry</i> , 6(1), Frank J. Sulloway, 'Birth Order and Evolutionary Psychology: A Meta-Analytic Overview', 75–80. © (1995), by permission of Taylor & Francis Ltd, http://www.tandf.co.uk/journals .	374
13.6	A 'bold' great tit (<i>Parus major</i>) taking on a much larger blackbird (<i>Turdus merula</i>). © David Tipling/Education Images/ Universal Images Group/Getty Images.	378
13.7	Gareth Bale scores with an overhead kick as Cristiano Ronaldo looks on. © Ian MacNicol/Getty Images.	381
13.8	Intelligence theorists have often underplayed the importance of practical intelligence. © Kerstin Geier/Getty Images.	385
14.1	Samoan girls playing cards around the time that Mead visited the island. © Universal History Archive/Universal Images Group/Getty Images.	390
14.2	Japanese macaques love to make snowballs (another cultural practice). © mochida1970/Moment/Getty Images.	395
14.3	The antimicrobial properties of different spices and herbs.	399
14.4	Formula 1 driver Daniel Ricciardo participates in the Ice Bucket Challenge in 2014. © Hoch Zwei/Corbis/Getty Images.	405
14.5	A schematic of the causal factors (proximate and ultimate) that led to the development of advanced civilisation. Author's own art (after Diamond).	407



Tables

2.1	Mendel's demonstration of colour dominance in pea plants	32
3.1	Theories of evolutionary origin of male characteristics	60
4.1	Mating system categories	93
4.2	Human mean mate preference scores in 9474 people from 37 different cultures	95
6.1	The three principal attachment styles	144
6.2	How the three principal attachment styles arise out of an interaction between the parent's reproductive strategy and the child's resultant developmental strategy	147
6.3	Oliver Curry's 'periodic table of morality'	160
7.1	Documented acts of apparent altruism in the animal kingdom	164
8.1	Documented acts of apparent reciprocity between non-relatives in the animal kingdom	190
9.1	Percentage of choices in the abstract version of the Wason selection task	240
9.2	Summary of results from abstract, cheat detection and altruist detection tasks	243
10.1	Proportion of languages adopting each of the six logically possible word orderings from a sample of 402 of the world's languages	260
10.2	The different stages in human development according to Locke and Bogin	271
10.3	Sanskrit compared to other Indo-European languages ancient and modern	273
12.1	Evolutionary models of depression	328
12.2	Changes to the classification of schizophrenia under DSM-5	337
12.3	Summary of hereditary studies of schizophrenia	338
12.4	Personality disorder clusters according to DSM-5	343
13.1	The Big Five personality factors with typical characteristics of high and low scorers on these factors	358
13.2	Summary of the different accounts of individual variation depending on its source (heritable vs environmental) and its effect (adaptive, non-adaptive, maladaptive)	361
13.3	Partial correlations of the Big Five personality factors with birth order	375
14.1	The peak ages at which individuals from a variety of disciplines were at their most productive	410



Boxes

1.1	Eugenics	8
1.2	The Application of Evolutionary Thinking in Five Disciplines	12
1.3	Sociobiology, Evolutionary Psychology and Political Correctness	15
2.1	Mendel's Demonstration of Colour Dominance in Pea Plants	32
2.2	Mendel's Original Laws of Genetics (Using Modern Terminology)	33
2.3	The Evolution of Our Species – from Ape to Early Archaic <i>Homo sapiens</i>	37
2.4	The Human Genome Project – Unravelling the Code to Build a Person?	41
2.5	The Evolution of Our Species – the Emergence of Modern <i>Homo sapiens</i>	45
2.6	Multilevel Selection Theory	48
3.1	Two Forms of Selection or One?	57
3.2	Fisher versus Hamilton–Zuk – Attractiveness versus Good Genes	62
3.3	Are Females Really 'Coy'?	64
3.4	Alice and the Red Queen	67
3.5	Female Choice and Male Behaviour	70
3.6	Are You a Bit Neanderthal?	73
3.7	Why Are Some People Gay? The Paradox of Homosexuality	75
4.1	Male Provisioning Hypothesis – the Roots of the Human Pair Bond?	89
4.2	Bipedalism and Pair-Bonding – Why Do Men Help Out?	91
4.3	Altering Sperm Production	104
4.4	Context and Reproductive Strategy in Women	108
4.5	Male Preference for Novelty – the Coolidge Effect	109
5.1	Stage Theories of Development	118
5.2	Habituation Procedures	120
5.3	Other Physical Principles Held by Infants	122
5.4	People with Autism or Autistic People?	130
6.1	A Life History Account of Play	139
6.2	Infanticide as an Adaptive Strategy	141
6.3	Behavioural Genetics and the Effects of the Genes on the Environment	152
7.1	Kindness to Relatives – Is It Altruism?	167
7.2	How Do Animals Recognise Kin?	171
7.3	Parental Investment in Spiders – the Ultimate Sacrifice	175
7.4	Are Forager Fathers More Attentive than 'Modern-Day' Fathers?	176
7.5	The Cinderella Effect – the Downside to Parental Investment?	180
7.6	Conflict in the Womb – an Arms Race of Raging Hormones	185
8.1	Blood Donation – a Criticism of Reciprocity in Humans	193
8.2	Prisoner's Dilemma in the Absence of a Brain	199
8.3	A Real Prisoner's Dilemma – Philip Zimbardo's Prison Experiment	202
8.4	Freeriding and the Evolution of Cooperation	204

8.5	Criticisms of Edward Wilson's Views on Xenophobia	208
8.6	Sex Differences in Jealousy	213
9.1	The Problem of Free Will	223
9.2	David Marr and Levels of Explanation	225
9.3	#TheDress	227
9.4	Slime Mould Cognition	230
9.5	Evolutionary Cognitive Neuroscience	233
9.6	What Is the Domain of a Module?	242
9.7	Foraging Theory and the Marginal Value Theorem	245
10.1	What Is Language?	252
10.2	Can Non-human Animals Be Taught Language?	265
10.3	Language Development and Life History Approach	270
10.4	Were Early Languages Signed Rather than Spoken?	275
11.1	Emotion and Motivation	287
11.2	Six Universal Facial Expressions?	291
11.3	Similarities between Ourselves and Other Primates in Facial Expressions Provide Clues about the Origins of Human Facial Expressions	293
11.4	Lateralisation – the Asymmetrically Emotional Brain	300
11.5	Criticisms of the Universality of Emotions – Human Pigs and False Smiles	303
11.6	Nesse's Proposed 'Phylogeny of Emotions'	310
12.1	Is Morning Sickness an Adaptation?	318
12.2	Genetic Diseases	321
12.3	Obsessive–Compulsive Disorder – an Overactive Verification Module?	325
12.4	Do Women Drive Other Women into a State of Anorexia Nervosa?	332
12.5	Did Blue Eye Colouration Evolve to Provide Resistance to Seasonal Affective Disorder?	334
12.6	A New Taxonomy of Psychopathology – Del Giudice's FSD Model	348
13.1	How Is Personality Measured?	355
13.2	The Consistency of Behaviour across Situations	359
13.3	Birth Order and Personality	374
13.4	Use and Abuse of IQ – Heritability, Race and IQ	383
14.1	Re-evaluating Margaret Mead	392
14.2	Do Non-human Animals Have Culture?	393
14.3	Is Cultural Evolution Always Progressive?	401
14.4	Myths, Mind Viruses and the Internet	404
14.5	Evolution and Religion	411



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

xviii Preface to the Fourth Edition

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.

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