Cognitive Motivation

Motivation and cognition were treated as separate concepts throughout most twentieth-century psychology. However, in recent years researchers have begun viewing the two as inextricably intertwined: not only does what we want affect how we think, but how we think affects what we want. In this innovative study, Beswick presents a new general theory of cognitive motivation, synthesising decades of existing research in social, cognitive and personality psychology. New basic concepts are applied to a wide range of purposive behaviour. Part I of the volume reviews different forms of cognitive motivation, such as curiosity, cognitive dissonance, achievement motivation and the search for purpose and meaning, while Part II examines the basic processes that underlie it, such as working memory, attention and emotion. The central concept is the incomplete gestalt, in which motivation is generated by a universal striving to integrate information and make sense at all levels of cognitive organization.

David Beswick is Professor Emeritus and Principal Fellow at the Centre for Positive Psychology, Melbourne Graduate School of Education, the University of Melbourne. He is a Life Member of the Australian Psychological Society, a Fellow of the Australian College of Educators and a minister in the Uniting Church in Australia. He was formerly director of the Melbourne Centre for the Study of Higher Education, before which he researched and taught in psychology and educational research at the Australian National University. He held visiting appointments at Berkeley, London and Uppsala, and has published more than 100 articles and monographs.

Cognitive Motivation

From Curiosity to Identity, Purpose and Meaning

David Beswick

The University of Melbourne

CAMBRIDGE
UNIVERSITY PRESS

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University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

4843/24, 2nd Floor, Ansari Road, Daryaganj, Delhi – 110002, India

79 Anson Road, #06-04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

First published 2017

Printed in the United Kingdom by Clays, St Ives plc

A catalogue record for this publication is available from the British Library.

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To Joan and Hazel

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Preface

Beginning with the study of curiosity, this book presents a new general theory of motivation in which a few basic concepts are applied to a wide range of cognitive motivation. It is the result of two sustained bursts of research and writing separated by a decades-long career in academia and ministry. I first explored the subject of psychogenic motivation in the late 1950s and early 1960s in my doctoral work at Harvard. Although I did not know it at the time, I was working in the midst of a movement in psychology that became known later as the cognitive revolution. The founders of that movement combined an exalted academic style with a commitment to new principles that promised to reshape the way human thought, feeling and behaviour were understood. 'That revolution was intended to bring "mind" back into the human sciences after a long cold winter of objectivism,' some of the leaders aiming 'to establish meaning as the central concept of psychology – not stimuli and responses' (Bruner 1990, pp. 1–2). As a PhD student, my contribution was a cognitive process theory of curiosity in which I explained curiosity as a result of conceptual conflict. Reflecting on this work some 40 years later I found that I was dissatisfied with the narrowness of my explanatory dynamic – in particular, its failure to give a greater motivational role to emotion. I began to explore the many lines of research that spanned the intervening years, and I soon encountered George Loewenstein's review of the subject (Loewenstein 1994), in which he propounded a general principle that curiosity is motivated by gaps in knowledge. Could we explain this kind of motivation by reference to gaps rather than conflicts? I found this interesting but thought focussing on gaps was too negative, based as it was on a desire to escape unfavourable conditions created by a perceived deficiency.

At around that time (2001) I was contacted by a PhD student at Buffalo, Todd Kashdan, who has since published a significant book on curiosity (Kashdan 2009) and become a leader in the developing field of positive psychology. He favoured Lowenstein's gap theory, and in his later work he rejected my conceptual conflict model. Interestingly, he had

the same objection to my model as I had to the gap theory: he thought it too negative. I agreed that curiosity should have a positive motivation, so we needed something other than gaps and conflicts that could nevertheless accommodate those two ideas. Reflecting on this, it occurred to me that there is an overarching concept that can account for both the gap theory and the conceptual conflict theory. I hit upon the idea of completing incomplete images, resolving both gaps and conflicts, and more – reaching for a new whole image or gestalt. Whether Gordon Allport had planted that idea in my mind at Harvard all those years ago, I cannot say, I probably had the rudiments of it from my studies at Melbourne, but I recalled his proposition from an earlier time: 'Motives are always a kind of striving for some form of completion' (Allport 1937b, p. 154). He was one who still found relevance in gestalt concepts, as did his once junior colleague Jerome Bruner. The idea of an incomplete gestalt offered itself to me as a general model of cognitive and affective processes that could provide for the filling of gaps in knowledge and the resolution of conceptual conflicts, and do so in such a way as to lead to a new creation. Gestalt theory was no longer at the forefront of cognitive psychology, but this idea pointed to the possibility of a general theory that extended the explanation of curiosity through the field of intrinsic motivation and beyond, to the full range of cognitive motivation. That was what I aimed to explore – the application of a few very basic ideas in a general theory to explain a wide range of related motivational phenomena.

Except as part of some applied work on education in later years, I had only been able to do a little more empirical work on curiosity myself around 1970. It was represented by my paper at the Toronto conference on intrinsic motivation in that year (Beswick 1971), and then the publication of my Intrinsic Motivation scale (Beswick 1974) while I was at the Australian National University (ANU) in Canberra, and in my article with Kast Tallmadge (Beswick and Tallmadge 1971) on aptitude-treatment interactions in reference to inductive reasoning in complex learning tasks when I was with him at American Institutes for Research in the Behaviorial Sciences (AIR) in Palo Alto, California. Then there was the work with Judy Boreham, in the Education Research Unit at ANU and in the Centre for the Study of Higher Education at the University of Melbourne, on the development of scientific interests and competence. That was in a longitudinal study of career development among students proceeding from secondary to higher education and entering the professions. We observed some interesting effects of intrinsic and extrinsic reward seeking among students in different kinds of courses (Beswick and Boreham 1986). At that time my thinking was also stimulated in a joint project with Paul Ramsden concerned with 'Curiosity and Learning

with Understanding' (Ramsden, Beswick and Bowden 1986; Beswick and Ramsden 1987) in reference to deep and surface approaches to learning that had been described by Ference Marton in Sweden, who was in Melbourne briefly and who I visited at Gothenberg in 1986. I was encouraged to believe that not only were there useful practical implications of research on curiosity, but that field studies could yield some vital insights of theoretical significance which should have wide application in a general cognitive motivation theory.

I had, of course, been aware from an early stage of continuing work on curiosity over many years by researchers in the period after Berlyne's original foundation studies in the 1950s, such as that of Mary Ainley, Carol Sansone and Judith Harackiewicz, up to the 2000s. Especially, I kept in mind the provocative research on the suppressing effects of extrinsic rewards on intrinsic motivation by Edward Deci and others from 1971. However, I felt that Deci and his colleagues did not go far enough in breaking away from the old need or drive models of motivation. I had been persuaded of the necessity for a radical break by my original work on curiosity that had been reinforced particularly by my thesis adviser Robert White in his since much cited paper 'Motivation reconsidered: The concept of competence' (White 1959). I had been inducted by David McClelland into the study of what Henry Murray called psychogenic motives. I could see some overlap of his achievement motivation theory with my cognitive process theory of curiosity – hence the later prospect of a general theory that would apply not only to achievement motivation and curiosity but also to such motives as power and affiliation, as well as the theories of cognitive dissonance, attribution theory and self-efficacy. So I set about looking for the basic processes that underlie these different forms of cognitive motivation and I found at least some of them in studies of working memory and in the signalling function of emotions in motivation. I was then driven back to understand in greater depth the early gestalt theories of von Ehrenfels, Wertheimer, Köhler, Koffka and later Lewin.

The culture of the original group that worked on need for achievement had a pervasive influence. It was something I received from McClelland, especially his approach to assessment and the combination of creative insights with quantitative empirical methods in the field of personality research – a combination I had already learned to appreciate from the influence of Sam Hammond at Melbourne. The subsequent development of my understanding reflected other influences from those days: provision for the unique individual, even to the point of allowing for the possibility of a singularity in every person, is something that was inspired by Gordon Allport, together with a willingness to include

contrary indications and hidden prospects I saw in Henry Murray; while on emotion and cognition I was influenced in different ways, both then directly and later from their publications, by three other of my teachers at Harvard: George Mandler, Walter Mischel and Jerome Bruner. Another was Elliot Aronson, but I learned much more from his later writings than from him at that time. The evaluation of 'non-intellectual factors' in learning mathematics for the School Mathematics Study Group (SMSG) at Yale led at Harvard by Richard Alpert supported some of my early survey research on curiosity.

Fellow graduate students Ralph Metzner, George Litwin and Merrill Carlsmith also contributed to my thinking. Metzner was working with Mischel on delay of gratification and shared with me in the curiosity and delay of gratification project reported in Chapter 2. Litwin, with whom I shared research assistance work for McClelland on achievement motivation, published a paper on risk taking and achievement motivation at this time with John W. Atkinson, with whom he had worked at Michigan. It was one of the foundations of expectancy-value theory discussed in Chapter 5. At this time also Carlsmith was co-author with Leon Festinger in their recently completed work at Stanford, their now classic study of cognitive dissonance from forced compliance, which I discuss in Chapter 4 – 'the single most important study ever undertaken in social psychology,' according to Aronson (1999, p. 106)

In regard to the theory of cognitive dissonance, I should confess that when I developed the cognitive process theory of curiosity (see Chapter 2) around 1960, shortly after Festinger's theory appeared, I avoided much discussion of cognitive dissonance. Dissonance was too close to what I wanted to say about the central role of conceptual conflict in motivation with which it might have been confused, and I wanted to make a completely different emphasis. The main difference, which became more apparent as the field developed, was that dissonance is an aversive state, but in cognitive motivation theory derived from the work on curiosity I am concerned more with positively attractive arousal in which the aim is not avoidance of an unpleasant state, but the prospect of satisfaction in developing whole new forms. I did not accept Festinger's aversive theory of arousal, although in retrospect it is obvious that I might have learned a good deal from his writing and from Aronson had I paid more attention to developments in the study of cognitive dissonance in the following years. I owe more to them than I was prepared to acknowledge at the time, although, of course, I still prefer positive alternatives to the aversive model.

These historical reflections are relevant to the treatment I have given many of the topics in this book. Although I have not aimed to write a

book that is concerned primarily with the history of psychology, I hope that it might make a contribution to the history of this branch of psychological theory. I have traced many of the central ideas over a period of a hundred years or so. The historical treatment I have given to basic concepts in the general theory of cognitive motivation will contribute to the understanding of those concepts in depth and to the history of the various lines of research in which they were developed. At the same time I hope that the wide range of literature I have reviewed in its historical context will be a rich resource for new researchers in this field and for established scholars who might not be able to spare the time to search widely for the background of a topic of current interest.

The breadth and depth with which I have treated the main topics and the amount of information I have included raise a question about the best way to read this book. Relevant disciplines range from cognitive and affective neuroscience to personality and social psychology, including contemporary and historical accounts of cognition and motivation. Some sections are quite technical and others discursive, bridging into tangentially related fields like philosophy and literature. Although there is a logical sequence in the topics, which should be apparent in the chapter summaries, not every reader will want to read the whole work from beginning to end like a novel. It is intended to hold together as both a rich resource and a coherent account of the field rather than serve as a reference work on discreet subjects. I recommend taking the topics in the order in which they appear, but selective attention to topics of interest is likely, nevertheless, to be productive. For each chapter, there is a list of section and subsection headings in the Table of Contents and a summary appears at the end of the chapter. There are numerous cross-references between chapters that are designed to enable the reader to pursue related topics of interest, find further substantiation of the arguments being made and explore further implications. Particular sections may contain more detail than is useful to a particular reader. Except perhaps for the orientation given to the whole work in the Introduction, it should be possible to begin almost anywhere, skip on from part way through a chapter to a section of interest in another chapter and still construct a satisfying sequence.

I am indebted to the Melbourne Graduate School of Education in the University of Melbourne for providing me with an academic home and general support while I worked on this book after retirement, and especially its Centre for Positive Psychology in the later stages of the work. My previous position as director of the Centre for the Study of Higher Education at Melbourne was a base for much relevant background in applied research and basic theory, as was the Department of

Psychology and the Education Research Unit of the Research School of Social Sciences at the Australian National University. I should also acknowledge with real appreciation the time out from regular ministry, and their tolerance of my testing combination of interests in theology and psychology, that was extended to me over many years by the Victoria and Tasmania Synod of the Uniting Church in Australia and the former Victoria and Tasmania Conference of the Methodist Church of Australasia.

Many thanks are due to several scholars in Australia and overseas for comments on drafts of chapters at various stages of the work: I think particularly of Mary Ainley, Alan Baddeley, Roy Baumeister, David Beckett, Bruce Beswick, Reijo Byman, Norman Feather, Erica Frydenberg, Todd Kashdan, Jordan Litman, Ference Marton, Lindsey Oades, Jean Russell, Christine Siokou, Gavin Slemp, and Lea Waters. They are not, of course, responsible for any defects that remain. The contribution of my son Bruce has been significant both in his assistance with editing and through many hours of discussion that helped to clarify theoretical concepts.

It is with warm appreciation that I acknowledge the love and support of my wife Hazel while I worked on this book at a time when she might have expected more time together in retirement. It was time that my first wife Joan did not live to enjoy for long enough, but she too had shared gladly with much understanding my diverse and sometimes conflicting professional commitments.