Stress Management in the Construction Industry
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Mei-yung Leung
Department of Civil & Architectural Engineering
City University of Hong Kong

Isabelle Yee Shan Chan
Department of Real Estate and Construction
University of Hong Kong

Cary L. Cooper
Lancaster University Management School
Lancaster University
UK
Contents

About the Authors vii
Preface ix
Acknowledgements xi

Chapter 1 Construction Personnel in Practice 1
1.1 Background to Stress Management in Construction 1
1.2 Construction Organisations 3
1.3 Construction Personnel 8
1.4 Construction Projects 12
1.5 Stress in the Construction Industry 14
References 28

Chapter 2 Theories of Stress 37
2.1 The History of Stress Theory 37
2.2 Arousal Theories 41
2.3 Appraisal and Regulatory Theories 44
2.4 Summary 48
References 48

Chapter 3 Stress 53
3.1 Stress Levels of Construction Personnel 53
3.2 Development of a Conceptual Model of Stress 65
3.3 Research Results on Stress among Construction Personnel 66
3.4 Case Studies 77
3.5 Practical Implications 84
3.6 Summary 85
References 86

Chapter 4 Sources of Stress Affecting Construction Personnel 91
4.1 Stressors Affecting Construction Personnel 91
4.2 Development of a Conceptual Model of Stressors and Stress 104
4.3 Research Results on Stressors and Different Construction Personnel 105
<table>
<thead>
<tr>
<th>Chapter 5</th>
<th>Consequences of Stress</th>
<th>149</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Consequences of Stress Affecting Construction Personnel</td>
<td>149</td>
</tr>
<tr>
<td>5.2</td>
<td>(Inter)Personal Performance of Construction Personnel</td>
<td>149</td>
</tr>
<tr>
<td>5.3</td>
<td>Task Performance of Construction Personnel</td>
<td>151</td>
</tr>
<tr>
<td>5.4</td>
<td>Organisational Performance of Construction Personnel</td>
<td>152</td>
</tr>
<tr>
<td>5.5</td>
<td>Development of a Conceptual Model of Stress and Performance</td>
<td>153</td>
</tr>
<tr>
<td>5.6</td>
<td>Research Results on Stress and Performance of Construction Personnel</td>
<td>158</td>
</tr>
<tr>
<td>5.7</td>
<td>Discussion</td>
<td>165</td>
</tr>
<tr>
<td>5.8</td>
<td>Case Studies</td>
<td>169</td>
</tr>
<tr>
<td>5.9</td>
<td>Practical Implications</td>
<td>177</td>
</tr>
<tr>
<td>References</td>
<td>178</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 6</th>
<th>Stress Management</th>
<th>185</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Coping Behaviours</td>
<td>185</td>
</tr>
<tr>
<td>6.2</td>
<td>Effectiveness of Coping Behaviours</td>
<td>195</td>
</tr>
<tr>
<td>6.3</td>
<td>Determinants of Various Coping Behaviours</td>
<td>196</td>
</tr>
<tr>
<td>6.4</td>
<td>Developing a Conceptual Model of the Individual Coping Behaviours of Construction Personnel</td>
<td>197</td>
</tr>
<tr>
<td>6.5</td>
<td>Studies on the Coping Behaviours of Construction Personnel</td>
<td>198</td>
</tr>
<tr>
<td>6.6</td>
<td>Case Studies</td>
<td>211</td>
</tr>
<tr>
<td>6.7</td>
<td>Discussion</td>
<td>217</td>
</tr>
<tr>
<td>6.8</td>
<td>Practical Implications</td>
<td>223</td>
</tr>
<tr>
<td>6.9</td>
<td>Summary</td>
<td>224</td>
</tr>
<tr>
<td>References</td>
<td>225</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 7</th>
<th>Conclusions</th>
<th>233</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Stress Management for Construction Personnel</td>
<td>233</td>
</tr>
<tr>
<td>7.2</td>
<td>Practical Recommendations</td>
<td>242</td>
</tr>
<tr>
<td>7.3</td>
<td>Recommendations for Further Research</td>
<td>246</td>
</tr>
<tr>
<td>7.4</td>
<td>Conclusion</td>
<td>249</td>
</tr>
<tr>
<td>References</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

**Index** | 257 |
Dr Mei-yung Leung is Associate Professor at the City University of Hong Kong, PRC. She has more than 20 years of practical/teaching experience in the construction industry/education and has participated in a number of prestigious construction projects in Hong Kong. She has over 150 international publications in various research areas covering stress management, construction project management, value management, facility management and construction education. Dr Leung has successfully completed all levels of the Mindfulness-based Stress Reduction training at the University of Massachusetts in the United States, and conducted various stress management seminars and full courses to construction companies, professional institutes, higher educations and religious organisations. She has received a number of international awards, including the Tony Toy Memorial Award issued by the Hong Kong Institute of Value Management in Hong Kong, the Thomas D. Snodgrass Value Teaching Award issued by the SAVE International ‘The Value Society’ in the United States, and the Teaching Excellence Award issued by the City University of Hong Kong. Dr Leung is also a senior Fulbright Scholar at the Pennsylvania State University and University of Southern California.

Dr Isabelle Yee Shan Chan is Lecturer at the University of Hong Kong, PRC. She is the author of over 40 international publications in books, journals and conferences, covering areas of stress management, health and safety, culture and innovation in construction. In line with these research areas, she has participated in more than 10 research projects in the capacities of principal investigator, co-investigator and project coordinator. Stress management in construction is the research area of her PhD study; she has also successfully completed the mindfulness-based stress reduction programme in the Hospital Authority in Hong Kong. Dr Chan is the vice-chairman of the Institute of Safety and Health Practitioners in Hong Kong, and is also a visiting fellow of Hughes Hall, University of Cambridge, UK.

Professor Sir Cary Cooper is Professor of Organisational Psychology and Health, Lancaster University Management School, UK. He is the author of over 120 books (on occupational stress, women at work and industrial and organisational psychology), has written over 400 scholarly articles, and is a frequent contributor to national newspapers, TV and radio. Professor Cooper is a Fellow of the British Academy of Management and also of the Academy of Management (having also won the 1998 Distinguished Service
Award). In 2001 he was awarded a CBE in the Queen’s Birthday Honours List for his contribution to organisational health, and in 2014 he was awarded a knighthood. Professor Cooper was the lead scientist to the UK Government Office for Science on their Foresight programme on Mental Capital and Well Being (2007–2008). He was appointed a member of the expert group on establishing guidance for the National Institute for Health and Clinical Excellence on ‘promoting mental well-being through productive and healthy working conditions’, 2009. Professor Cooper is Chair of the UK’s Academy of Social Sciences (an umbrella body of 47 learned societies in the social sciences); and was Chair of the Chronic Disease and Well-being Global Agenda Council of the World Economic Forum in Geneva in 2009.
Due to the task complexity, tight timeframes, complicated work relationships, poor working environments and other factors, the construction industry has long been recognised as a stressful one. A survey study conducted by the Chartered Institute of Building (2006) indicates that nearly 70% of construction personnel have suffered from stress, anxiety or depression directly resulting from their work. Stress is not only a matter for the individual, but is also a real cost for any project, organisation, industry, and even nation (e.g., due to work-related stress, more than 10 million working days were lost in the UK; Health and Safety Executive 2012). To survive in such a demanding and dynamic industry, with these numerous sources of stress, construction personnel must be able to adopt suitable coping behaviours. However, not all coping behaviours have a positive effect on the individual. Studies indicate that the adoption of maladaptive coping is not unusual among construction personnel. In addition, although health care is now receiving increasing attention from the construction industry, the majority of training events and guidelines in this area only address physical well-being and neglect the importance of psychological health.

Hence, this book aims to enhance the performance of construction personnel by developing and presenting an integrated and comprehensive stress management model. This will not only illustrate how construction personnel are affected by various stressors and how this influences their performance, but will also explain how stress levels can be managed by dealing with the various stressors and using appropriate adaptive coping behaviours. To achieve this aim, this book, based on an extensive literature review, survey studies and scenario analyses, investigates various components of stress management for construction personnel, including the multiple dimensions of the stress they experience, the nature of their stressors, the coping behaviours they adopt, and the consequences of stress for their performance.

Chapter 1 sets out the aims and objectives of this book and provides an overview of the characteristics of the construction industry and the current state of research in this area. It summarises the background information, both practical and academic, required to contextualise the discussion which follows.

Chapter 2 introduces the historical development of stress theories since the 1920s. The concept of stress was first developed by a group of psychobiologists and then extended by other psychobiologists, sociologists and psychiatrists in different contexts. Various stress theories (mainly arousal and appraisal and regulatory theories) and their implications are discussed.

Chapter 3 discusses the stress experienced by construction personnel and explains the arousal mechanisms for different types of stress by reference to
different theories. Three main kinds of stress (work stress arising from
person–environment misfit, physical stress from the homeostatic effect, and
emotional stress governed by the limbic system) are investigated, based on
both quantitative and qualitative studies of construction professionals.
Some practical implications are then set out at the end of the chapter.

Chapter 4 introduces the sources of stress (i.e., stressors) in detail. Five main
types including personal, interpersonal, task, organisational and physical are
identified, and the results of a scientific investigation into how different types
of stressors induce the three main kinds of stress among different construction
personnel are discussed. Based on these findings, recommendations are made
about the identification and assessment of key stressors and how these can be
reduced for construction staff.

Chapter 5 analyses the consequences of stress (i.e., performance) in terms of
stress management in construction projects. Performance is classified along
various dimensions, including personal, task and organisational, and each type
is described in detail in the construction industry context. Conceptual models
of stress and performance are then developed to illustrate the impact of stress
on different types of performance for construction personnel. The results of a
questionnaire survey and case study analysis are presented to show the
significant relationship between stress and performance. These findings are
then used as a basis for recommendations for how to manage the stress levels
of construction personnel and optimise their ultimate project performance.

Chapter 6 deals with the coping behaviours adopted by construction person-
nel. Three main types are addressed: problem-, emotion- and meaning-based
coping. Scientific research shows that different forms of coping behaviours have
different effects on performance. To better manage stress among construction
personnel, several practical implications from this body of work are presented.

Chapter 7 concludes the book and sets out an integrated stressor–
stress–coping behaviour–performance model, ending with a summary of
its recommendations.

We hope that this book will prove useful to both academics and practitioners.
For the former, the empirical support to the stressors–stress–coping–
performance associations in construction not only lays a solid platform to fur-
ther similar studies (fostering the development of stress management research
in construction), but also fits into the current knowledge gap of psychological
health in occupational safety and health (OSH) education in construction
(fostering evolution of OSH education in construction). For the latter, the book
benefits individual construction personnel by the overview and analyses of vari-
ous stress management strategies, and also facilitates the development of stress
management interventions in construction. This is predicted to improve the
holistic performance and productivity of individual construction personnel,
which are key antecedents of project and organisational success.

Our goal is that this book will facilitate the development of stress manage-
ment research and education in construction, while also enhancing the aware-
ness of construction personnel on the importance of stress and stress management.

Mei-yung Leung,
Isabelle Yee Shan Chan
and Cary L. Cooper
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This first chapter introduces the background and objectives of the book. It also discusses the characteristics of the construction industry; the nature, functions and interrelationships of various construction organisations, projects and personnel from an international perspective; the contribution of various member throughout the construction life cycle; and the potential for these industrial, organisational, project and individual characteristics, as well as construction-related work tasks, to cause stress for construction personnel. Along with the discussion of stress management in construction in the chapters which follow, several studies of construction personnel from various nations will be discussed here in order to present an overview of the current environment, results and trends in stress management research in the construction industry context. This chapter provides background information to contextualise the discussion in the remainder of the book.

1.1 Background to Stress Management in Construction

The construction industry can be characterised as competitive, dynamic and challenging. A construction project is a unique human endeavour which combines the different goals and objectives of multiple stakeholders. They need to deploy various resources to tackle change and uncertainties and complete the work within a limited time and specific scope (Turner 1993). Normally, construction personnel working in different organisations (such as clients, government departments, consultancy companies, contractors, subcontractors and suppliers) need to work together to ensure the success of a project. Communication and cooperation between stakeholders is critical for