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Operational Readiness for High-Risk Professions

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Operational Readiness for High-Risk Professions

Judy M. McDonald

Commentary submitted to the University of Westminster
in partial fulfillment of the requirements for the degree of
PhD by Published Work

University of Westminster

School of Social Sciences

Discipline: Psychology—Stress, Health, and Wellbeing

Director of Studies: Dr. Kathryn Waddington

Second Supervisor: Dr. Jay Mackenzie

External Supervisor: Dr. Daniel Krewski

January 14, 2025

Abstract

This commentary consists of five peer-reviewed academic articles and a peer-reviewed, single-authored book, describing research which spans diverse professions. Sherpa guiding, homelessness services, global health, dentistry, neurosurgery, and policing—each seeking evidence-based solutions for operational challenges, training improvements, and preservation of expertise. The central focus is on expanding Orlick's mental-readiness model, the 'Wheel of Excellence,' originally designed for elite athletes, into a comprehensive 'Operational Readiness Framework for High-Risk Professions.' This new framework seeks to enhance performance excellence and optimise frontline operations in high-risk environments by refining training, ensuring consistency, reducing errors, and improving efficiency. This body of work draws lessons from exceptional professionals, evaluating the importance of physical, technical, and mental readiness, while identifying comparable performance indicators. It contributes to applied psychology and professional practice by developing specialised training tools and constructing a generalisable framework tailored to high-risk professions, grounded in sport psychology and wellbeing theories. The evidence is presented sequentially, linking four decades of research and practical expertise on how exceptional practitioners in public health and safety, psychosocial, medical, and protective services prepare for their roles. It also considers the complex interplay between high performance, frontline stress, and overall wellbeing. The research is built on three foundational pillars: performance excellence, preparedness, and professional specificity. A four-tiered appraisal approach—Pre-analysis, Critical Appraisal Skills Programme (CASP) checklist, template analysis, and immersion-crystallisation—is used to critically analyse, synthesise and integrate the six publications, revealing cross-cutting issues and themes not apparent when examining a single profession. Reflexivity is woven throughout, acknowledging the positions, assumptions, and beliefs influencing the work. The commentary concludes by discussing limitations, strengths, anticipated future steps, and final reflections. It explores interprofessional lessons, new theories, and practical ways to address global security challenges using the Operational Readiness Framework.

Table of contents

<i>Abstract</i>	<i>ii</i>
<i>Table of contents</i>	<i>iii</i>
<i>List of tables</i>	<i>viii</i>
<i>List of figures</i>	<i>ix</i>
<i>List of accompanying publications</i>	<i>x</i>
<i>Preface</i>	<i>xi</i>
<i>Acknowledgements</i>	<i>xii</i>
<i>Author's declaration</i>	<i>xv</i>
<i>Glossary of terms</i>	<i>xvi</i>

Chapter 1 Introduction: Performance excellence, preparedness,

profession specificity	1
1.1 Overview	1
1.2 Performance excellence: Performance and positive psychology	3
1.2.1 Theoretical foundations	3
1.2.2 Comparison of performance models	4
1.2.3 Connections between high-risk professions and elite sport	5
1.2.4 Foundational studies	5
<i>Olympic athletes</i>	6
<i>Surgeons</i>	7
<i>Air traffic controllers</i>	8
<i>Police</i>	9
1.3 Preparedness: Stress, health and wellbeing	11
1.3.1 Mental Health Continuum Model	11
1.3.2 Critiques of the R2MR program	12
1.3.3 High-performance wellness positioning	12
1.4 Profession specificity: Pragmatism and risk management	13
1.5 Reflections	14

Chapter 2 Research Design **15** |

2.1 Professional positioning and mutual benefits	15
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2.2 Epistemological positioning	15
2.3 Theoretical framework	17
2.4 Overview of published work	18
2.4.1 Aim, rationale, and objectives	18
2.4.2 Fundamental assumption	18
2.4.3 Core questions	19
2.4.4 Investigative process	19
2.5 Data collection process and analysis	20
2.5.1 Participants	20
2.5.2 Instruments	20
2.5.3 Data collection and analysis methods	21
2.5.4 Ethical positioning	23
2.6 Reflections	24
Chapter 3 Publication portfolio	25
3.1 Expansion into public health	25
3.2 Public safety services—High-altitude Sherpa mountain-guiding	26
3.2.1 Cultural acclimatisation	27
3.2.2 Common frontline challenges	28
3.2.3 Network opportunities	28
3.2.4 Orlick’s model	28
3.2.5 Practical resources	28
3.3 Public health services: Global health	28
3.3.1 Biostatistical positioning	29
3.3.2 Trust	29
3.3.3 Mental core competencies	29
3.3.4 Confidence and humility	30
3.3.5 Alignment with governing bodies	30
3.4 Psychosocial services: Frontline workers in homelessness services	31
3.4.1 Participant, recruitment, and selection	32
3.4.2 Supportive training	33
3.4.3 Development and testing	33
3.4.4 Collaborative research	33
3.4.5 Promotion of reflective practice	33

3.4.6	Burnout prevention.....	33
3.5	Medical services: Dentistry	34
3.5.1	Comparative readiness assessments.....	35
3.5.2	Interprofessional clinical training	35
3.5.3	Dental curriculum update	36
3.5.4	Adapted training tools	36
3.5.5	Evolving trends in dentistry	36
3.6	Medical services: Neurosurgery	37
3.6.1	Research responsiveness	38
3.6.2	Vigilance	38
3.6.3	Longevity of original research	38
3.6.4	Psychology resource in surgery	39
3.6.5	Targeted improvement strategies	39
3.7	Protective services: Policing	40
3.7.1	Literature reviews.....	40
	<i>Predictors of police performance.....</i>	40
	<i>Police performance stressors.....</i>	40
	<i>Critical analysis of the “Road to Mental Readiness”</i>	
	<i>(R2MR) program.....</i>	40
	<i>Police physical competencies.....</i>	40
	<i>Police technical competencies.....</i>	41
	<i>Police mental competencies.....</i>	41
3.7.2	Research approach	43
3.7.3	Updated data	43
3.7.4	Atypical longitudinal design	43
3.7.5	Quotations and terminology	43
3.7.6	Knowledge transfer and tool development	43
3.7.7	Diverse audiences	43
3.7.8	Actionable recommendations	43
3.7.9	Empowering law enforcement	44
3.8	Practical tools	44
3.8.1	Profile of challenging situations.....	44
3.8.2	Operational Readiness Index and performance indicators.....	46
3.8.3	Clinical/Field/Site training assessments.....	48

3.9 Conclusions	51
3.10 Reflections	52
Chapter 4 Critical appraisal: Analysis, synthesis and integration	53
4.1 Critical appraisal tools	54
4.1.1 Critical Appraisal Skills Programme (CASP)	54
4.1.2 Template analysis and immersion-crystallisation	55
4.2 Critical Appraisal Skills Programme (CASP) framework	55
4.3 Validation of results	59
4.3.1 Professional positioning	59
4.3.2 Literature reviews	59
4.3.3 Pilot phase	59
4.3.4 Methodology	60
4.4 Findings	61
4.4.1 Performance excellence	61
<i>Cultural relevance</i>	61
<i>Categorisation of challenging operational situations</i> ...	62
<i>Importance of readiness</i>	63
4.4.2 Preparedness	64
<i>High-performance stress, health and wellbeing</i>	64
<i>Dominance of mental readiness</i>	65
<i>Hierarchy of evidence-based preparedness measures</i> ...	67
4.4.3 Profession specificity	69
<i>Operational Readiness Index comparisons</i>	69
<i>Real-world tools</i>	70
<i>Risk management perspective</i>	71
4.5 Application of findings	75
4.5.1 Recommendations... ..	75
4.5.2 Next steps	76
4.6 Conclusions	77
4.6.1 Performance excellence	78
4.6.2 Preparedness	78
4.6.3 Profession specificity	79
4.7 Reflections	79

Chapter 5 Original contributions and significance	81
5.1 Operational readiness framework for high-risk professions	81
5.1.1 Categorisation for performance excellence challenges and stressor	82
5.1.2 Preparedness competencies, performance indicators and practices	83
5.1.3 Intra- and inter-professional specificity	83
5.2 Comparison of performance excellence frameworks	84
5.3 Blueprint of guiding principles: Foundational Pillars and Operational Readiness Framework	86
5.4 Limitations and strengths	89
5.4.1 Limitations	89
5.4.2 Strengths	89
5.5 Conclusion	90
5.6 Reflections	91
Chapter 6 Next steps and final reflections	92
6.1 Interprofessional opportunities	92
6.2 New frontiers... ..	93
6.3 Theoretical growth	94
6.4 Risk management perspectives	94
6.5 Final reflections	95
References	96
Appendices	120
Appendix A Excerpts of my reflexivity process guided by Jamieson et al. (2023)	120
Appendix B Orlick's 'Wheel of Excellence' mental readiness success elements	121
Appendix C Investigative process	122
Appendix D Template analysis and immersion-crystallisation	123
Appendix E Published work and independent reviewers' impact statements. .	124
Appendix F Acronyms and jargon in homelessness services.	126
Appendix G Westminster Centre for Psychological Sciences Research Talk. .	127

List of tables

Table 1.1	Prompt Questions for Embedding Reflexivity in All Stages of Research	2
Table 1.2	Lessons Learned from Early Foundational Studies	6
Table 3.1	Key Conclusions from the Study of High-Altitude Sherpa Mountain Guiding	27
Table 3.2	Key Conclusions from the Study of Global Health Researchers	29
Table 3.3	Key World Health Organisation Global Competency Model	30
Table 3.4	Key Conclusions from the Study of Frontline Workers in Homelessness Services	32
Table 3.5	Key Conclusions from the Study of Dentists	35
Table 3.6	Key Conclusions from the Study of Neurosurgeons	38
Table 3.7	Key Conclusions from the Study of Police	42
Table 4.1	Comparison of Validity of Results, Findings and Application of Findings in Operational Readiness for Six High-Risk Professions	56
Table 4.2	Interprofessional Comparison of Readiness Competencies	64
Table 5.1	Comparison of Performance Excellence Frameworks: Orlick versus McDonald	85

List of figures

Figure 1.1	Foundational Pillars of the Operational Readiness Framework and Index. . .	3
Figure 1.2	Orlick's Wheel of Excellence	4
Figure 1.3	Readiness for Performance Excellence	9
Figure 1.4	Trajectory of Four Decades of Research and Experiential Knowledge	11
Figure 1.5	Extended Mental-Health Continuum	12
Figure 2.1	Fundamental Philosophies in Mixed Methods Research.	16
Figure 2.2	Investigative Process Evolved from Elite Athletes to High-Risk Professions	19
Figure 2.3	Stages of Template Analysis	22
Figure 2.4	Immersion-Crystallisation Process	23
Figure 3.1	Profile of Challenging Situations in Dentistry	45
Figure 3.2	Operational Readiness Performance Indicators for Dentistry	47
Figure 3.3	Clinical Training Assessment for Dentistry Trainees	48
Figure 3.4	Site Training Assessment for Frontline Workers in Homelessness Services	50
Figure 4.1	Framework for Analysing, Synthesising and Integrating Qualitative and Quantitative Data Across Six Publications.	53
Figure 4.2	Interprofessional comparison of the relative importance of physical, technical and mental readiness for performance excellence	66
Figure 4.3	Confidence Practices: Interprofessional Comparison	67
Figure 4.4	Comparison of Readiness Competencies Across Professions	69
Figure 4.5	Application of Risk Management Decision-Making Principles Across Seven High-Performance Professions	72
Figure 4.6	Foundational Pillars of the Operational Readiness Framework and Index . .	78
Figure 5.1	Original contribution: Operational Readiness Framework for High- Risk Professions	82
Figure 5.2	Back-to-Back Reference for Real-World Application.	87

List of accompanying publications

McDonald, J., Dahal, G., Tyshenko, M., Sloan, D. & Sharma, S. (2015). [Operational readiness: Links to Sherpas' peak performance in tourist mountain-guiding](#). In *Sustainable livelihood systems in Nepal* (pp. 281-308). International Union for Conservation of Nature, Nepal Country Office (IUCN Nepal).

McDonald, J. & Gyorkos, T. (2016). Operational Readiness for conducting global health research abroad, *Canadian Journal of Public Health*, 107(4-5), 387-389. DOI: <https://doi.org/10.17269/cjph.107.5555>

McDonald, J., & Hale, K. (2022). Mental Readiness for Frontline Workers in Homelessness Services in Ottawa, Canada. *International Journal on Homelessness*, 2(1), 1–25. <https://doi.org/10.5206/ijoh.2022.1.13720>

* *This article originally appeared online in pre-publication form in 2021*

McDonald J. & Paganelli, C. (2021). Exploration of mental readiness for enhancing dentistry in an inter-professional climate. *International Journal of Environmental Research and Public Health*, 18(13):7038. <https://www.mdpi.com/1660-4601/18/13/7038>

McDonald, J. (2021). Mental readiness: Focusing on the cutting edge. *Archives of Pediatric Neurosurgery*, 3(2), May-August, e952021. [https://doi.org/10.46900/apn.v3i2\(May-August\).95](https://doi.org/10.46900/apn.v3i2(May-August).95)

McDonald, J. (2025). *Gold Medal Policing: High-Performance Operational Readiness in Law Enforcement, 2nd edition*, Routledge. <https://www.amazon.ca/Gold-Medal-Policing-Operational-Performance/dp/0367700239>

Preface

As an Adjunct Professor with the School of Epidemiology and Public Health at the University of Ottawa, and former Associate Director at the McLaughlin Centre for Population Health Risk Assessment, I am excited to present this body of work, which reflects over four decades of applied research in readiness strategies for high-risk professions. My research area spans diverse fields, from Olympic athletes to air traffic controllers and police, focusing on understanding and enhancing performance in environments where excellence is critical and often involves life-or-death actions or decisions.

A particularly noteworthy aspect of my research involved examining the mental-readiness practices of surgeons at the Ottawa Hospital. The parallels discovered between their practices and those of Olympic athletes were both surprising and praised as a landmark within the medical community. Building on this, a significant need was identified for systematic mental training in the high-stress realm of air traffic control. This led to the development of new mandatory courses and an “Advanced Situational Awareness Program” for Navigation (NAV) Canada, aimed at improving the preparedness and performance of both trainees and seasoned professionals.

The innovative approaches outlined in my research I have also applied to other high-performance fields, including social work, dentistry, financial auditing, and high-altitude Sherpa guiding. Through my global work in supervising, lecturing, and conducting workshops, I strive to advance operational readiness and safeguard lives in these critical professions.

My academic foundation includes a BSc in kinanthropology (exercise physiology, biomechanics, psychomotor learning, and sports psychology) and an MA in education, complemented by extensive leadership experience in municipal government and public-private partnerships. This commentary introduces a compilation of my work that integrates original insights and contributions, reflecting a commitment to enhancing performance and preparedness across various high-risk domains.

Acknowledgements

It will forever remain a privilege to have been invited into the inner circles of these professions that serve the public health and safety of society.

My deepest thanks go to the frontline individuals, whose anonymous and confidential interviews provided the substance for this research, sharing intimate details rarely disclosed to someone outside their profession. Without their openness and candor, this work would not have been possible. Their contributions have laid the groundwork for invaluable mentoring, benefiting the guidance offered in these studies and the training of future professionals. For many, the interviews provided a much-needed catharsis, revealing emotions in professions that rely on emotional restraint. I feel privileged to have witnessed this human side of so many essential services.

I also extend my gratitude to the organisational leaders who saw the opportunity of capturing corporate memory and were integral to the success of the investigations. They implemented new strategies informed by frontline insights, fostering innovation. This special tribute goes to: Drs. Wilbur Keon and Marvin Letts; Mr. Les Peddle and Ms. Annette Duncan; Deputy Chiefs Larry Hill and Paul Burnett supported by Chiefs Vince Bevan and Eric Stubbs; General Manager Dick Stewart, City Manager Steve Kanellakos; Directors Bruce Herridge and Rudy Gheysen; Training Instructors and Coordinators Ron Huffman, Irene Barath, Karen Mackenzie, and Katherine Hale; and Drs. Govinda Dahal, Theresa Gyorkos, Corrado Paganelli, and Ricardo Santos Oliveira. Your commitment to excellence is inspiring.

My preparation was aided by many within these organisations—though naturally skeptical and cautious—who offered invaluable advice and extensive opportunities to participate in meetings, ride alongs, shadowing, and training during the pilot phases. I extend my heartfelt appreciation to those individuals of all ranks for their early support and the personalised grounding I received.

The University of Ottawa was the starting point for this research, actively promoting collaborative community partnerships under the leadership of Director-Professor Melissa Brouwers in the School of Epidemiology and Public Health in the Faculty of Medicine, with early support from Deans Denise Alcock and Denis Prudhomme in the Faculty of

Health Sciences. Special thanks to Emeritus Professor Daniel Krewski for his ongoing support and resources to explore risk assessments and management. Of importance were the many, many students who worked exceedingly long hours in transcribing, coding, and analysing data. Early inspiration and leadership will be eternally attributed to Dr. Terry Orlick.

Routledge Publishing has been a pioneer in supporting the academic rigor required to produce *Gold Medal Policing*, second edition, as part of this portfolio. They proactively facilitated multiple peer reviews, extended timelines for further academic review, shared logo rights with collaborators, and offered technical expertise, support, and flexibility for multiple revisions. Special thanks to: Ellen Boyne, Senior Editor for the Criminal Justice and Criminology List; Kate Taylor, Editorial Assistant; Thomas Sutton, Project Manager; Sarahjayne Smith, Production Editor; and Daniel Andrew, Senior Project Manager (Deanta).

I owe a great deal to colleagues who provided advice, railed at me when I (often) needed it, and patted me on the back (often undeservingly) to keep me going: Drs. Angela Carter, Theresa Gyorkos, Hwashin Hyun, Michael Tyshenko, and WJR (Pim) van Ouwerkerk.

To those in my personal life who supported this multi-year endeavour—Anda Bruinsma, Arlene Gregoire, Katherine Hale, John Lanktree, Mike Lebreton, Deirdre McDonald, Janice Neelands, Josette Noreau, Lynn Omholt-Jensen, Corinne Parker, Morina Reece, Elizabeth Siwicki, David Sloan, Pauline Warren, and Ember—my sincere thanks.

A personal note of thanks to my parents for their constant encouragement. I owe them a great deal.

Finally, I thank my supervisors: Drs. Kathryn Waddington, Jay Mackenzie, and Daniel Krewski. These three people contributed significantly to ensuring this commentary provides a clear and comprehensive representation of my work. Each provided unique advice to enrich it with broader perspectives, new theoretical frameworks, and external insights. I am deeply grateful for their generous time and faith.

This research represents a lifetime of inquiry, and I am indebted to those whose alliances and contributions supported the investigations, tools, and training development.

Alberta Medical Association (AMA) <https://www.albertadoctors.org/>
 Brazil Society for Pediatric Neurosurgery (SBNPed) <https://www.archpedneurosurg.com.br/sbnped2019>
 Canadian Association of Chiefs of Police (CACP) <https://cacp.ca/index.html>
 Canadian Coalition for Global Health Research (CCGHR) <http://www.ccghr.ca/>
 Canadian Foundation for Nepal (CFFN) <http://cffn.ca/>
 Canadian Police Knowledge Network (CKPN) <http://www.cpkn.ca/>
 Canadian Police Research Centre (CPRC) http://www.cata.ca/files/PDF/Media_Events/CPRCoverview.pdf
 Children's Hospital of Eastern Ontario (CHEO) <http://www.cheo.on.ca/>
 City of Ottawa <http://ottawa.ca/>
 CSIH MentorNet and Global Health Student and Young Professionals Summit
<https://csihmentornet.wordpress.com/> and <http://www.ghsummit.com/>
 European Society for Pediatric Neurosurgery (ESPN) <http://www.espneurosurgery.org/>
 International Society of Pediatric Neurosurgery (ISPN) <http://www.ispneurosurgery.org/>
 International Union for Conservation of Nature (IUCN) <http://www.iucn.org/>
 Justice Institute of British Columbia (JIBC) <http://www.jibc.ca/>
 McGill University, Department of Epidemiology, Biostatistics and Occupational Health
<https://www.mcgill.ca/chpi/affiliates/gyorkos>
 McLaughlin Centre for Population Health Risk Assessment, University of Ottawa
<http://www.mdaughlincentre.ca/>
 NAV Canada <http://www.navcanada.ca/splash.htm>
 Nepal Mountaineering Association (NMA) <http://www.nepalmountaineering.org/>
 Nepal Tourism Board (NTB) <http://www.welcomenepal.com/>
 Ontario Medical Association (OMA) <https://www.oma.org/Pages/default.aspx>
 Ontario Police College (OPC) http://www.mcscs.jus.gov.on.ca/english/police_serv/OPC/OPC_about.html
 Ontario Police Video Training Alliance (OPTVA) <http://opvta.com/>
 Open University of Nepal Initiative <http://www2.cfn.ca/openu>
 Ottawa Police Services (OPS) <http://www.ottawapolice.ca/>
 Ottawa-Shanghai Joint School of Medicine <https://med.uottawa.ca/joint-school/>
 Risk Science International <https://risksciences.com/>
 Routledge <https://www.routledge.com/>
 Royal Canadian Mint <http://www.mint.ca/>
 The Ottawa Hospital <https://www.ottawahospital.on.ca/>
 TIME Inc. Books <http://www.timeinc.com/>
 Transport Canada <https://www.tc.gc.ca/eng/menu.htm>
 University of Ottawa, Faculty of Health Sciences, School of Human Kinetics <http://health.uottawa.ca/>
 University of Ottawa, Faculty of Medicine, School of Epidemiology and Public Health <http://med.uottawa.ca/>
 University of Ottawa, Faculty of Social Sciences <https://www.uottawa.ca/faculty-social-sciences/>
 Urban Management Group (UMG) <http://urbanmanagement.ca/>
 World Association for Disaster Emergency Medicine (WADEM) <https://wadem.org/>
 Zone of Excellence <http://www.zoneofexcellence.ca/about.html>

Author's declaration

I declare that
this commentary has been composed solely by myself
and that it has not been submitted,
in whole or in part,
in any previous application for a degree.

Collaborative alliances were essential,
with each profession's leaders ('Champions') facilitating
funding, access, and personnel, and
the University of Ottawa providing administrative oversight, ethics approval,
student contributions, and technical support.

The word count for Chapters 1 to 6 is 16,400 excluding tables and figures.

Judy McDonald

January 14, 2025

Glossary of Terms

AI	Artificial intelligence
AQR	Applied Quantitative Research
ATC	Air traffic control/controller
BDTP	Before Design Theoretical Placement
CASP	Critical Appraisal Skills Programme
CCGHR	Canadian Coalition for Global Health Research
CUPE	Canadian Union of Public Employees
FDI	Fédération dentaire internationale (World Dental Federation)
FWHS	Frontline worker in homelessness services in the psychosocial service sector, and sometimes generalised as social worker.
GHSYP	(The Canadian) Global Health Student and Young Professionals
IUCN	The International Union for Conservation for Nature
MHCC	Mental Health Commission of Canada
MMR	Mixed Methods Research
n.d.	no date
OPC	Ontario Police College
OPS	Ottawa Police Service
OR	Operating room
ORF	Operational Readiness Framework
ORI	Operation Readiness Index
PhD	Doctor of Philosophy
PI	Performance Indicator
PTSD	Post-traumatic stress disorder
PwC	PricewaterhouseCoopers
R2MR	Road to Mental Readiness Program
SEPH	School of Epidemiology and Public Health (University of Ottawa)
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UN-OHRLLS	UN Office of the High Representative for the Least Developed Countries
US	United States of America
WCDS	World Congress of Dental Students
WCPS	Westminster Centre for Psychological Sciences
WHO	World Health Organization

Chapter 1

Introduction:

Performance excellence, preparedness, and profession specificity

1.1 Overview

This commentary, comprising five peer-reviewed academic articles and one peer-reviewed, single-authored book describes an original contribution to knowledge, specifically that related to operational readiness in high-risk professions by expanding Orlick's (1992, 2003) mental-readiness model. Orlick's Wheel of Excellence, originally designed for elite athletes, has been adapted into a comprehensive operational readiness framework for professions such as surgery, social work, and policing.

The expansion serves two primary goals: enhancing performance excellence and improving frontline operations by refining training, consistency, error reduction, and efficiency in fields prone to high-risk situations. The research draws lessons from exceptional professionals across various fields; evaluates the importance of physical, technical, and mental readiness; identifies comparable performance indicators; and creates specialised training tools. Ultimately, a generalised framework is constructed tailored for high-risk professions, grounded in sport psychology's theoretical and empirical foundations.

To meet the needs of these diverse and inherently risky occupations, an investigative process was developed, mirroring the assessments used for Olympic athletes (Orlick & Partington, 1988). The commentary presents evidence sequentially, linking four decades of research and practical experiential knowledge on how exceptional practitioners in public health and safety, psychosocial, medical, and protective services prepare themselves for their work. It also considers the complex interplay between high performance, frontline stress, and overall wellbeing.

Reflexivity is embedded throughout the commentary. Prompt questions from Jamieson et al. (2023) (see Table 1.1) guided the process, as illustrated by excerpts from my notes (see Appendix A), and within the commentary itself, such as: "*Why do I want to research this group?*" (Chapter 1.4), "*What can I give to this group?*" (Chapter 2.6), "*Am I an insider or outsider researcher?*" (Chapter 4.4.1). Personal reflections at the end of each chapter (in text boxes) acknowledge positions, assumptions, and beliefs influencing the research.

Table 1.1 Prompt Questions for Embedding Reflexivity in All Stages of Research [Source: Jamieson et al., 2023, p. 10]

Stage of research	Broader reflexivity prompts
Research question and design	<ul style="list-style-type: none"> ◆ Why do I want to research this group? ◆ To what extent am I “within” the participant group that I am researching? Am I an “insider” or “outsider” researcher (or do I occupy both positions?) ◆ What can I give to this group? Who is represented within the research team? ◆ Should I be the one to research this group, or am I taking space away from someone else?
Data collection	<ul style="list-style-type: none"> ◆ Am I intruding on this group? How can I make this as non-coercive as possible? ◆ How can I make this research accessible to the population? ◆ Do participants understand what their data will be used for? ◆ Have I thought beyond traditional ethics? Am I acting ethically? ◆ Could my collection methods be problematic?
Data analysis and interpretation	<ul style="list-style-type: none"> ◆ Am I aware that people have given me this data and that they may not know me (e.g., survey, health, admin data)? ◆ Who are these people behind the data? ◆ If I am using existing datasets, are there any silent assumptions in this dataset? ◆ Could my analysis of the dataset reproduce existing inequalities?
Conclusions and framing	<ul style="list-style-type: none"> ◆ How does my use of evidence reflect my biases (or the biases of the research team) as researchers and as individuals with their own life, wants, emotions, needs? ◆ What do I gain from this research? What does the population I have studied gain? ◆ Is there a disconnect between the two questions above? If so, consider the first few questions in this table again.

This introductory chapter gives a chronological account of the lessons learned from my four early research studies on Olympic athletes (Orlick & Partington, 1988), surgeons (McDonald & Orlick, 1994; McDonald et al., 1995), air traffic controllers (McDonald, 1993a; NAV Canada, 1997, 1998), and police officers (McDonald, 2006), which lay the groundwork for this commentary’s publication portfolio. It highlights the integration of *performance excellence*, *preparedness*, and *professional specificity*—the three foundational pillars of this research. The theoretical framework is defined through *performance and positive psychology*; *stress, health and wellbeing*; and *pragmatism and risk management*, detailing how a method originally designed for elite athletes was adapted into an investigative process for high-risk professions (see Figure 1.1). These foundational pillars will be further developed in Chapter 5, where real-world questions are answered, and original contributions to knowledge are illustrated.

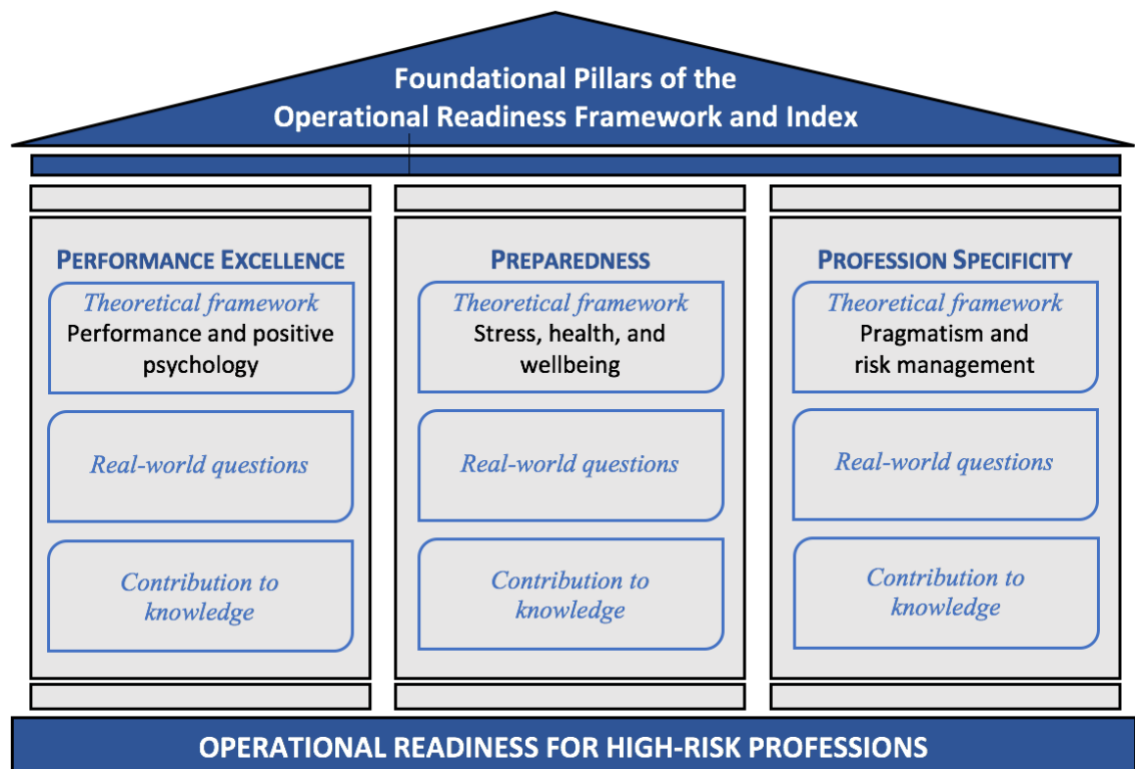


Figure 1.1 Foundational Pillars of the Operational Readiness Framework and Index

1.2 Performance excellence: Performance and positive psychology

Performance excellence, grounded in performance psychology, is first examined in terms of 1) theoretical foundations; 2) comparison of performance models; and 3) connections between high-risk professions and elite sport; ending with a brief review of 4) foundational studies.

1.2.1 Theoretical foundations

Excellence has evolved through various theories and research. Thurstone (1938) linked mental ability to performance; Guilford (1968) emphasised anticipation; and Bandura (1969) highlighted social learning. Maslow (1970) focused on self-actualisation; Piaget (1976) stressed mental imagery; and Glasser (1976) introduced internal responsibility. Golf legend Jack Nicklaus attributed success to concentration and visualisation, claiming “precision in the game is 50% mental picture, 40% set-up, and only 10% actual swing” (Ostrander & Schroeder, 1979, p. 147). Peters and Waterman (1982), despite recent controversy (Collins, 2024), had the best-seller *In Search of Excellence*. Researchers like Dr. Terry Orlick and others linked high performance to mental readiness, especially to elite

athletes (Davis, 1984; Glore III, 1981; Loehr & McLaughlin, 1986; Orlick and Partington, 1988). Collectively, these empirical findings underscore psychological preparation as critical for achieving excellence across diverse performance domains.

1.2.2 Comparison of performance models

Orlick's Wheel of Excellence (Orlick, 1992; 2003; see Figure 1.2 and Appendix B), validated through comparisons to five mental-readiness models in a review by Abu-Alhassin et al. (2025a) in *Gold Medal Policing* (2nd ed.), stands out for its inclusivity and unique approach in assessing competencies across various high-performance domains.



♦ *Orlick's Wheel of Excellence* identifies seven success elements for mental readiness. Some terms were modified to better suit professions, as shown in parentheses. Commitment and Self-Belief (Confidence) form the core or hub of the Wheel of Excellence, while the five spokes are Positive Images (Positive Imagery), Mental Readiness (Mental Preparedness), Full Focus, Distraction Control, and Constructive Evaluation.

Figure 1.2 Orlick's Wheel of Excellence

[Source: Adapted from Orlick, 2003.

<http://www.zoneofexcellence.ca/free/wheel.html>]

Orlick emphasises achieving excellence through finding fulfillment, pursuing goals, and pushing boundaries to focus on the present, seizing opportunities amidst challenges, and fostering effective interpersonal relationships (Orlick, 1986). The model is teachable, accessible, and valuable for athletics and high-risk professions.

- ♦ The *Mental Toughness Questionnaire-48 (MTQ48)* (AQR International, 2017; Clough et al., 2002) has four constructs—Control, Commitment, Challenge, and Confidence—aligning partially with the Wheel of Excellence but lacking factors like Positive Images and Mental Readiness.

- ♦ *The Emotional Intelligence Model (EQ)* (Stein & Book, 2011; Terrell, 2020) emphasises emotional control, adaptability and leadership, aligning with Full Focus and Distraction Control.
- ♦ *Psychological Resilience in Sport Performers* (Sarkar & Fletcher, 2014) identifies protective factors against stressors—positive personality, motivation, confidence, focus, and social support—that align closely with Orlick’s model, affirming its applicability in high-pressure situations.
- ♦ *Performance Psychology in Action* (Hays, 2009) showcases general techniques to build confidence and manage emotions, while the Wheel of Excellence offers a more focused approach for specific fields.
- ♦ *Human Factors Challenges in Emergency Management* (Owen, 2014) also emphasises socio-cultural influences, similar to the Wheel of Excellence.

These comparisons reaffirm Orlick’s Wheel of Excellence as a robust foundation for enhancing performance across various demanding fields and are reaffirmed by its continued citation today (Collins & Macnamara, 2017; Durand-Bush et al. 2023; Marquardt, 2019).

1.2.3 Connections between high-risk professions and elite sport

Guided by Orlick’s Wheel of Excellence, a peak performance framework for non-sport high-risk professions, like surgery, aviation, and policing, seemed plausible. These fields share traits with elite athletes, including precision, adaptability, and accountability under pressure (Roach, 1982). Orlick and Partington’s ‘Athlete Interview Guide’ and methods (1988) could be adapted to enhance performance in these areas, as professionals must peak during critical periods, manage time constraints, possess specialised skills, maintain steady nerves, and undergo extensive training. This framework was hypothesised to benefit such professions.

1.2.4 Foundational Studies

Four early pivotal studies laid the groundwork for this commentary. They were conducted in Canada between 1985 and 2006. Table 1.2 outlines theoretical and operational lessons learned, highlighting mental readiness as a key predictor of performance in Olympic athletes (Orlick & Partington, 1988), surgeons (McDonald & Orlick, 1994; McDonald et

al. 1995), air traffic controllers (McDonald, 1993a; NAV Canada, 1997, 1998), and police officers (McDonald, 2006).

Table 1.2 Lessons Learned from Early Foundational Studies

	Olympic Athletes	Surgeons	Air Traffic Controllers (ATC)	Police
Lessons learned	Theoretical foundations for performance excellence research link Thurstone, Piaget to Orlick.	Mental readiness is a major influencer in surgical performance, especially during the common 16-hour workdays.	Immersive experiences like shadowing and briefings are important for adapting language, like "mental pictures" not imagery.	Collaborative efforts are required from both top-down and bottom-up approaches.
	Understanding the "Athlete Interview Guide" structure is key for adapting the guide and questionnaire.	Orlick's seven mental success elements were evident among expert surgeons.	Observing and listening uncovers understated concerns (low-traffic incidents, shift work, overtime).	Non-judgmental respect for inner police culture and protocols is an important mindset.
	Ethics approval process for this protocol with a 235-sample group was invaluable.	A champion figure is needed for access and to overcome logistics.	Academic language must be made relatable in the ATC world.	Methodologically pilot study tests reliability and generalisability.
	It is difficult to manipulate responses of self-directed, autonomous, elite athletes which minimises risk of bias.	'Athlete Interview Guide' can be successfully adapted into a 'Surgeon Interview Guide.'	Highly specialised, strict and costly training are necessary to uphold high standards.	A conceptual Investigative Process was successfully created to study mental readiness in professions where excellence matters.
	Transcribing, coding, and analysing quantitative and qualitative data provided applied statistical grounding.	Procedures were established for identifying 'the best' performing in challenging situations as an equivalent to elite athletes at the Olympics.	The gravity of frontline positions within ATC services was understood and appreciated.	Advanced statistical analyses inform the creation of evidence-based tools.
	Mental readiness was the only significant predictor of final Olympic percentile ranking.	Strong rapport and trust are needed to elicit open and honest content.	Inner culture is cultivated through specialised selection, training, and evaluation processes.	Common frontline issues exist and impact safety, productivity, and morale.
	A conceptual 'Wheel of Excellence' model was developed from validated findings.	Mental-training programs and research are lacking for residents.	An adaptive hands-on, iterative, trial-and-error approach leads to improvements.	Frontline risk management is the first line of defence for policing organisations.
			Current research has invaluable ATC insights.	Evidence-based performance indicators and tools were designed. There are key intra/inter-professional frontline and management dynamics during crises.

Olympic athletes

The impetus for Orlick's Wheel of Excellence was a collaborative study with Dr. John Partington involving the entire 1984 Canadian Olympic team (1988). This study, featuring interviews with 75 athletes, and questionnaires from 160, offered an unprecedented view

into mental readiness at the Olympic level. Mental readiness emerged as the most significant predictor of Olympic success ($r=0.40$, $p<0.0001$). Key factors included social support from peers, coaches, and consultants (males: $r=0.57$, $p<0.001$); attentional focus before and during the Olympics (males: $r=0.28$, $p<0.005$; females: $r=0.38$, $p<0.01$); and imagery quality, such as having control and the ‘feel’ of actually performing (males: $r=0.41$, $p<0.005$; females: $r=0.72$, $p<0.005$). Performance obstacles included disruptions to routines, late selection, and distractions.

The study’s minimal bias highlighted the self-directed nature of elite athletes, reinforcing earlier research (Rychta, 1982; Werthner-Bales, 1985). This and other work by Orlick (Orlick, 1986, 2015; Orlick & Partington, 1986) has profoundly influenced athletes in understanding mental readiness in achieving consistent, high-level performance.

Surgeons

Like Olympic athletes, surgeons require unwavering precision and focus, especially during high-risk procedures. In the 1980s, research on surgical mental readiness was sparse. However, some studies identified strategies linked to surgical success, such as role models, coping mechanisms for failure, and visual memory imaging (Wind and Rich, 1987; Dawson, 1990; Korn & Johnson, 1983 respectively).

It became timely to adapt the ‘Athlete Interview Guide’ and methodology for surgeons (McDonald, 1992). This study involved 33 top surgeons. It focused on characterising challenging surgeries to explore readiness. It also created a template for future research.

Mental readiness emerged as a major predictor of surgical success, accounting for 49% of outcomes, compared to 41% for technical readiness and 10% for physical readiness (McDonald & Orlick, 1994; McDonald et al., 1995). Recognised as a landmark contribution, the study underscored the relevance of Orlick’s success elements in the operating room and sparked further exploration into mental readiness across other high-risk professions.

There is no doubt that it [McDonald, 1992] is a first-class publication and should be read by all trainees and young consultants... This concept to the best of my knowledge has never been put on paper until this publication came out.

—Program Chair and Spinal Surgeon, Oxford, Australia

Source: McDonald, 1993b, International Scoliosis Research Society (SRS) Meeting, Dublin, Ireland, 1993

Air traffic controllers

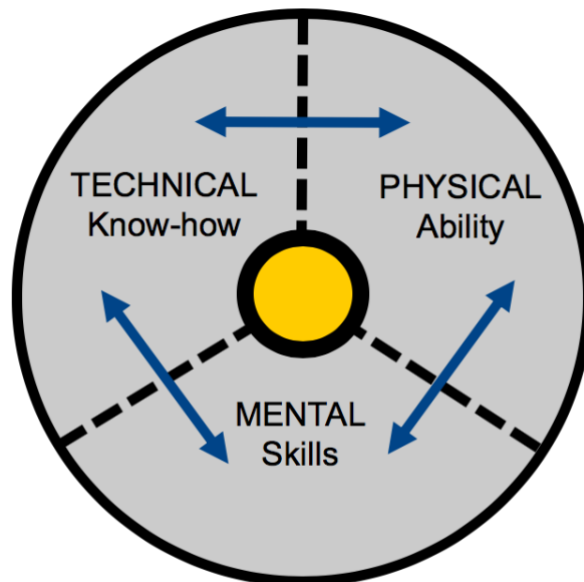
Following the work with surgeons, Transport Canada requested a systematic mental-training program for air traffic controllers (ATC), given their high-stress roles. The program, designed to enhance situational awareness, was mandated for all Canadian air traffic control trainees from 1992 to 2000 (McDonald, 1993a). In 1997, it contributed to an advanced instructional module, which became mandatory for all controllers (NAV Canada, 1997, 1998).


Key lessons emerging from a decade involvement in air traffic services:

- ♦ *Immersion in the ATC culture* is essential for understanding shift work and overtime dynamics.
- ♦ *Participation in tower and centre briefings* helps to tailor academic language.
- ♦ *Learning the phonetic alphabet* (Alfa, Bravo, Charlie... Zulu) and basic commands eases communication.
- ♦ *Low-traffic periods* have higher incident frequency (Stager et al., 1989).
- ♦ *Staying current with ATC research* is vital for research advances in this field (Edwards et al., 2012; Park & Jung, 1996).

Police

Policing stands apart from other high-performance professions due to the direct personal risks involved in safeguarding communities. Inadequate preparation in policing can lead to severe injury or death.



 Overall readiness for peak performance

Police risk management perspective:
First line of defense in managing risk is on the frontline.

In 2002, the Ottawa Police Service (OPS) recognised frontline readiness as key to organisational success. Frontline actions and decisions are pivotal in immediately managing threats, ensuring safety, and mitigating risks as the first line of defense (Figure 1.3). Their physical, technical, and mental readiness, along with their ability to perform under pressure, are essential in preventing catastrophic outcomes and upholding the integrity of the entire operation.

Figure 1.3 Readiness for Performance Excellence

[Source: Adapted from McDonald, 2006, p. 31]

This recognition led to a collaborative project involving OPS, the University of Ottawa and the City of Ottawa to investigate mental preparedness for frontline officers (McDonald, 2006). The aim was to customise mental readiness to enhance recruitment, training and retention, while strengthening the connection between management and frontline officers.

An extensive literature review revealed a significant gap in mental-readiness strategies for frontline policing. To address this, a primary study was conducted, involving in-depth interviews with 48 highly respected officers from various specialty units, identified anonymously by their peers and supervisors, exploring their mental readiness before, during, and after work shifts. Using quantitative and qualitative methods, 48 performance blocks and 69 mental-readiness practices linked to Orlick's seven success elements (Figure 1.2 and Appendix B) were identified.

Participants quantified the relative importance (percentage) of physical, technical, and mental readiness, where the total equaled 100%. Mental readiness accounted for 40% of excellence in challenging frontline policing, surpassing technical (32%) and physical readiness (28%). In a comparison of successful and disappointing performances, a 24% decrease in mental readiness was observed during disappointing performances, highlighting its critical role.

Based on these insights, 10 practical recommendations were developed to enhance police performance excellence, focusing on recruitment, self-assessment, career development, and training. The research culminated in the publication of *Gold Medal Policing* (McDonald, 2006), a comprehensive, court-defensible guide to policing-specific readiness skills now used in police training across Canada.

This intensive three-year research with frontline police, followed by a decade of teaching and tool design, provided future research direction. Key lessons emphasise collaborative problem-solving, a conceptual investigative process, and risk management.

- ♦ *Seek top-down and bottom-up* collaboration for unconventional problem solving (Dick, 2018; O'Neill & McCarthy, 2014).
- ♦ *Develop an investigative process* for evaluating physical, technical and mental readiness.
- ♦ *Link risk management* to emergency response scenarios.
- ♦ *Design evidence-based performance indicators* aligned with existing benchmarks (Ball, 2003, 2012; Smith & Bititci, 2017)
- ♦ *Understand interprofessional dynamics* in information sharing and community partnerships (Sanders, 2014; Thielsch et al., 2021).

In summary, Figure 1.4 maps four decades of research and experiential knowledge, tracing the evolution from foundational mental-readiness studies to an expanded operational readiness framework for high-risk professions introduced in the Publication Portfolio in Chapter 3.

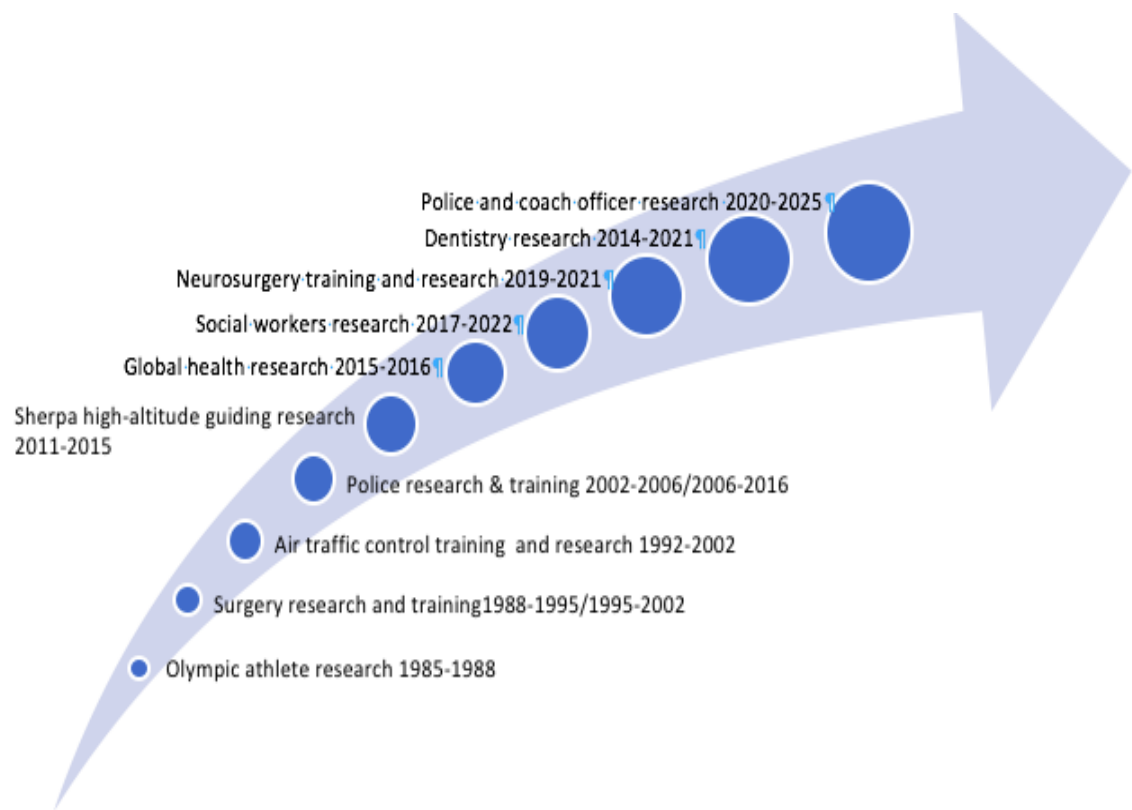


Figure 1.4 Trajectory of Four Decades of Operational Readiness Research and Experiential Knowledge

1.3 Preparedness: Stress, health and wellbeing

Preparedness, rooted in stress, health and wellbeing, is explored in three parts: 1) Mental Health Continuum Model; 2) critiques of the Road to Mental Readiness (R2MR) program; and 3) high-performance wellness positions.

Stress has evolved from the Yerkes-Dodson Law (Yerkes & Dodson, 1908) on stress arousal, Selye's concept of eustress and distress (Selye, 1977), and Lazarus's (1998) Transactional Model for Coping. Simpson et al. (2024) systematically reviewed contemporary organisational stress and wellbeing in competitive sport, identifying diverse stressors, coping methods, and gaps in understanding appraisals and emotions.

1.3.1 Mental Health Continuum Model

Statistics Canada (2004) and Canadian military research (Creamer & Forbes, 2004) highlighted rising suicide rates and post-traumatic stress disorder (PTSD) among first responders, stressing the need for effective mental-health strategies. The Canadian Armed

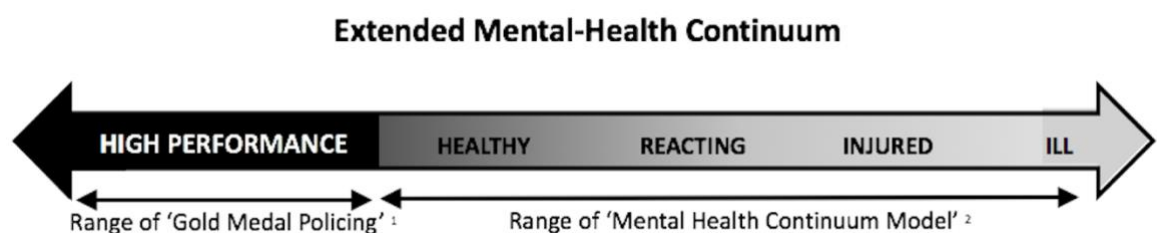
Forces (CAF) responded with the Road to Mental Readiness (R2MR) program in 2007, aimed at reducing stigma and encouraging help-seeking (Bailey, 2019; Blais et al., 2009). Central to this is the Mental Health Continuum Model, promoting proactive mental health management (Barath, 2017; Schomerus et al., 2015) with early indicators of PTSD. The program’s “Big 4” coping strategies—goal setting, positive self-talk, visualisation, and arousal control—designed to bolster resilience under stress, referencing Orlick’s 1986 work (Guest et al., 2019).

1.3.2 Critiques of the R2MR program

Despite its merits, R2MR faces criticism for its sustainability, unclear training expectations, the potential to create internal conflicts, and limited impact on stigma reduction. Poorly trained supervisors may exacerbate mistrust (Abu-Alhassin et al., 2024b; Carleton et al., 2018; Krakauer et al., 2020), and without tailored tools, implementation across different job contexts is ineffective (Szeto et al., 2019; Knaak et al., 2019).

1.3.3 High-performance wellness positioning

Operationalising high performance requires more than basic health and skills, integrating mental, physical, and technical readiness as exemplified by Gold Medal Policing (see Figure 1.5). This holistic approach is vital for optimal outcomes in high-stress environments.



¹McDonald, 2006

Figure 1.5 Extended Mental-Health Continuum [Adapted from Road to Mental Readiness: Mental Health Continuum Model (Barath, 2017, p.6)]

British sociologist Mildred Blaxter's critique challenges the Mental Health Continuum Model's linear progression, suggesting that health and ill-health coexist on a

multidimensional spectrum, thereby emphasising the complexity of maintaining wellbeing in high-risk professions (Blaxter, 2010; n.d.).

Positive psychology’s concept of “flow” defines the state of intense focus and enjoyment during challenging tasks (Csikszentmihalyi, 1988; Kotler et al., 2022). This complements coaching psychology’s role in enhancing leadership under stress, essential for career success (Harding & et al., 2018; Leonard-Cross, 2010; Spence & Grant, 2011).

An athlete’s perspective on resilience learned from mentor Steve Peters (DocuSign, 2023).

Gain perspective for competition. It is not life and death but you have to care and want it, but free yourself of fear. Practice thinking through scenarios regularly to have resilience in the face of stress.

—British cyclist and six-time Olympic gold-medalist Chris Hoy

Source: DocuSign, 2023

In summary, while the R2MR program addresses first responder mental health, critiques persist. *Gold Medal Policing* (McDonald, 2006) expands on this by integrating physical, technical, and mental preparedness for performance excellence, enhancing wellbeing and effectiveness under intense challenges.

1.4 Profession specificity: Pragmatism and risk management

Profession specificity, grounded in pragmatism, evolves as professional agendas vary. Ten years of consecutive training with air traffic controllers and police officers instilled the need for tailored, evidence-based, real-world tools. Inspired by Peirce’s pragmatism (1997), the focus is on achieving beneficial outcomes. High-risk professions like surgery, air traffic control, and policing emphasise risk management to improve emergency-response outcomes.

The American Psychology Association’s (2011) stresses linking risk evaluation and resilience with preparedness, serving to enhance performance in education, training, and wellness. Insights from interdisciplinary teams in surgery and policing underscore the reliance on effective preparedness and coordination.

1.5 Reflections

The text box below contains my personal reflections on this early research and training, which laid the groundwork for the publications and tools in Chapters 3 and 4, and the new conceptual framework in Chapter 5, applicable across diverse professional environments. Study design and mixed methods research are further discussed in Chapter 2.

Reflecting on my early training and active participation in the Olympic athlete study has deepened my understanding of research protocols, especially the importance of purposive sampling. Selecting the best individuals ensures high-quality data while adding both excitement and purpose to the research. The concise principles of early theorists continue to shape my understanding of stress, coping, and wellbeing. My experience in air traffic control, where I developed rigorous training programs and grasped the significance of frontline positions, was instrumental in my transition into risk sciences. Immersing myself in police culture through a rigorous four-month program—including high-level security checks, management presentations, 13 training days (covering use of force, high-pursuit driving, bite-suit training, and John School), and 27 full-shift ride-alongs (with first-hand tasing, drug searches, cellblock tours, and traffic stops)—further enriched acquisition of experiential knowledge. This experience underscored the necessity of a ‘champion’ figure to navigate access and logistical challenges in elite, high-risk professions, boosting my confidence, curiosity, and expertise in this dynamic area.

Chapter 2: Research Design

This chapter outlines the research design for the publication portfolio discussed in this commentary, spanning professional positioning and mutual benefits, epistemological positioning, theoretical framework, an overview of published work, data collection process and analysis, and final reflections.

2.1 Professional positioning and mutual benefits

This commentary integrates six research studies focused on exceptional professionals in high-risk occupations conducted at the University of Ottawa. These professions seek evidence-based solutions for operational issues, training improvements, and preservation of expertise. In turn, universities aim to conduct applied research efficiently, engage students, and collaborate with other institutions.

Collaborative alliances were essential, with profession leaders (‘Champions’) securing funding, access, and personnel, while the university provided administrative oversight, ethics approval, student contributions, and technical support.

2.2 Epistemological positioning

The research adopts a pragmatic epistemology, employing a mixed-methods research (MMR) paradigm, blending quantitative and qualitative analysis. Initially using a concurrent transformative approach (Almeida, 2018) guided by Orlick’s Wheel of Excellence, it evolved into a concurrent nested approach. Here, quantitative data informed the integration (or nesting) of qualitative findings to create an Operational Readiness Index (ORI) and framework for high-risk professions.

Quantitative methods, based on a (true measure) positivist paradigm, used numerical data to objectively measure profession-specific readiness for performance excellence. In contrast, *qualitative methods*, from a (sense-making) interpretivist paradigm, captured

lived experiences to define profession-specific mental success elements (Capella University, 2022; MacIntosh, 2017).

Mixed methods research. This sequential, pragmatic approach, focusing on “excellent” professionals, asserts that measurable aspects of performance can be taught to improve outcomes (Venkatesh et al., 2012) (see Figure 2.1). Baškarada and Koronos (2018) argue that critics of MMR often overlook philosophical issues and simply adopt traditional positivist views. They suggest evaluating MMR based on its empirical and practical results generates real-world outcomes, emphasising interpretive and critical methods. Chapter 1 (1.4, p. 13 discusses profession specificity, highlighting the relevance of pragmatism as an epistemological foundation for MMR. This provides the methodological rationale for adopting MMR in this research portfolio.

Fundamental Philosophies		
	Quantitative	Qualitative
Ontology What is reality?	Realism single truth, predictable, controllable	Relativism multiple truths, constructed knowledge, local
Epistemology What is known?	Positivism objective, measurable, non-interactive	Interpretivism purposeful sampling, lived experience, interactive
Methods Strategy/rationale	Experiments/surveys hard science, numerical, true until disprove	Interviews/Focus groups open-ended, in-depth, observational
Analysis Inspect/understand	Content analysis statistical methods, diagnostic, predictive	Grounded Theory textual content, coding, descriptive, inductive
Fields Disciplines/subjects	Implementation science clinical, biomed, social-health	Critical inquiry interpretive scholarship, humanities

Figure 2.1 Fundamental Philosophies in Mixed Methods Research [Adapted from Capella University (2022). *Campus Tools*]

In positive psychology, the debate over MMR continues, with critics questioning its rigor (Timans et al., 2019). Nonetheless, MMR is credited for enriching research beyond simply combining methods, producing insights greater than the sum of its parts (Plano Clark, 2016). Historical figures like pragmatist Charles Sanders Peirce (Peirce, 1992) and geologist Andrea Nightingale (2003), who conducted research in Nepal, championed MMR, underscoring its ability to expose biases and deepen understanding.

In complex, dynamic contexts, statistical data alone may not yield the best answers (Rzepczynski, 2018). Albert Einstein, known for $E = mc^2$, believed that “Not everything

that counts can be counted, and not everything that can be counted counts” (Toye, 2015). A journal editor expressed, “I only truly understood after reading the quotes” (Horsley, 2023).

Endorsing MMR, the World Health Organization (WHO) recognises qualitative research value alongside quantitative methods in informing evidence-based policy and strategies. The 2014 WHO Handbook (WHO, 2014) recommends qualitative research to illuminate subpopulation experiences. By 2018, a WHO health-evidence report (South et al., 2018) acknowledged both methods in measuring health-related community resilience and provided mixed-method tools, case studies, and guidelines for employing qualitative data in policymaking.

2.3 Theoretical framework

The theoretical framework underpinning the published work presented in this commentary is based on three foundational pillars: performance excellence, preparedness, and professional specificity. It integrates theories from performance and positive psychology; stress, health and wellbeing; and pragmatism and risk management, as introduced in Chapter 1, forming a comprehensive model for enhancing performance in high-risk professions.

Mental readiness, a major contributor to high performance, is often overshadowed by physical and technical readiness. Adapting and expanding Orlick’s model into a broader Operational Readiness Framework requires finding the ‘sweet spot’ between proven practices and new, evidence-based approaches. As global strategist Blair Sheppard noted, “Can’t solve 21st-century problems with 20th-century ways of thinking” (Tay, 2020, p. 1). This published work examines professions akin to world-class athletes, defines “excellence” from a frontline perspective, and highlights mental-readiness elements, ensuring the framework remains robust, adaptable, and pragmatic for high-risk demands.

2.4 Overview of published work

The research process in the published work described herein undertook a rigorous scientific approach, specifying aims, objectives, assumptions, methods, data collection, and analyses for enhancing readiness leading to performance excellence in selected high-risk professions. Outputs included evidence-based training guidance and customised tools.

2.4.1 Aim, rationale, and objectives

The overall aim was to expand Orlick's elite-athlete-based mental-readiness model, specifically the Wheel of Excellence, into an Operational Readiness Framework for High-Risk Professions.

The rationale for this extension was twofold:

- ♦ To enhance the performance of non-exceptional performers in high-risk professions by developing a model to help them achieve performance excellence; and
- ♦ To improve frontline operations by: (i) enhancing curriculum design and training; (ii) increasing consistency; (iii) reducing mistakes; and (iv) decreasing inefficiencies.

The specific objectives of this work were to:

- ♦ Assign appropriate weights to physical-, technical- and mental-readiness competencies for specific professions.
- ♦ Isolate and emphasise performance indicators for mental readiness comparable to those for physical and technical readiness.
- ♦ Create customised training tools to support operational readiness for high-risk professions.
- ♦ Analyse “exceptional” professionals in public health and safety, psychosocial, medicine, and protective services to extract lessons learned.
- ♦ Develop a generalisable framework for optimising performance in high-risk professions for application beyond the current research portfolio.

2.4.2 Fundamental assumption

To produce peak performers, skills that we *know* separate the *best* from the *rest* need to be identified. Therefore, a purposive study sample of “excellent” performers from the specific investigated population is essential.

2.4.3 Core questions

Pragmatic questions include:

- ♦ How do the *best* consistently perform, remain ready-on-demand, manage distractions, maintain focus, and develop coping strategies to navigate challenges?
- ♦ How does *mental readiness* align with *physical and technical readiness*, and contribute to overall operational excellence?

2.4.4 Investigative Process

The investigative process, comprising templates, follows established risk-science practices (Krewski et al., 2022a, 2022b) by defining optimal performance in real-world, high-risk situations and assessing mental preparedness. This methodology cuts across various public services, providing a theoretical perspective for optimising performance under challenging conditions. The process involves defining challenges, evaluating readiness, and isolating key mental-readiness success elements (see Figure 2.2 and Appendix C for a detailed description). This multifaceted approach highlights the importance of MMR in understanding and enhancing mental readiness and performance in high-risk professions.

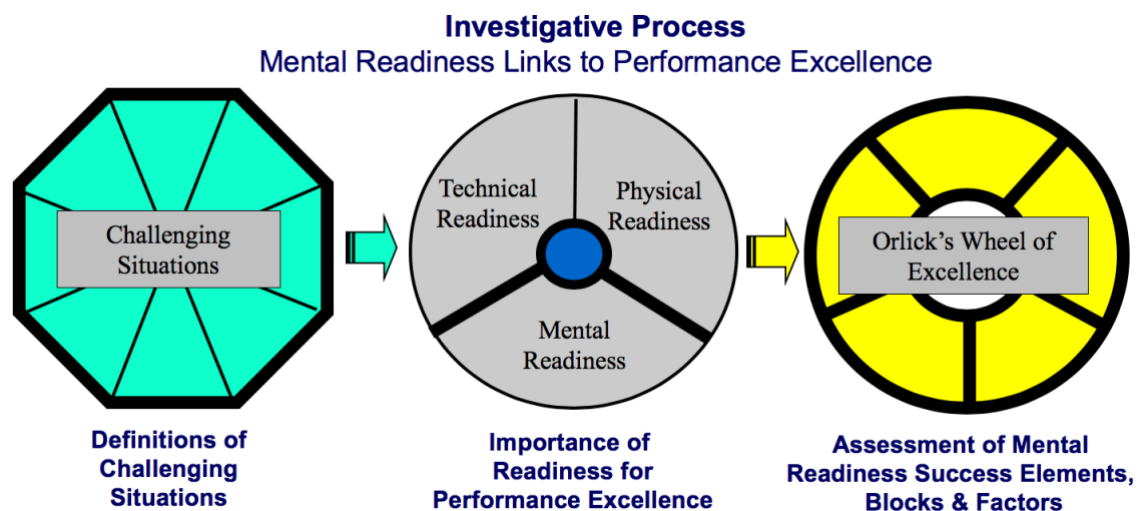


Figure 2.2 Investigative Process Evolved from Elite Athletes to High-Risk Professions
[Source: McDonald, 2006, p. 31]

Extensive fieldwork was essential for ensuring relevance and credibility. Immersive experiences in high-risk environments enabled the adaptation and replication of these findings, contributing to a comprehensive understanding of operational readiness across diverse professions. The Before Design Theoretical Placement (BDTP) model guided the

MMR process, linking theoretical frameworks and literature to the research design (Alavi et al., 2018). The adaptation of Orlick's model into a high-risk profession's investigative process exemplifies concept, statement, and theory development.

2.5 Data collection process and analysis

The data collection process and analysis outline the empirical data characteristics gathered in each study within this published work, using tailored methods to ensure the rigor and reliability.

2.5.1 Participants

Purposive sampling targeted professions impacting public health, safety, and wellbeing (Robinson, 2014). Trust-building efforts during the pilot phase led to confidential referrals from peers and supervisors to identify 'gold-medal winners.' Frontline individuals were asked: "*Describe an 'excellent' frontline individual in your profession?*" and "*Can you give me some names?*" The top participants, recognised as "excellent" by both peers and supervisors, were selected. Sample sizes varied, from exploratory studies with dentists (4 participants) to in-depth research with police officers (81 participants).

2.5.2 Instruments

The studies adapted Orlick and Partington's (1988) 'Athlete Interview Guide,' first modified for surgeons (McDonald, 1992) and further adjusted to fit each profession's terminology. For example, "unusually challenging police call" replaced "the Olympic Games." Participants quantified the relative importance (percentage) of physical, technical, and mental readiness for success in profession-specific challenging situations. Orlick's Wheel of Excellence defined mental readiness, with some terms modified to better suit the profession, such as changing "self-belief" and "mental readiness" to "confidence" and "mental preparation."

Generic, equitable physical and technical readiness success elements were generated using established occupational functionalities (General Healthcare Resources Inc., 2014; Lechner, 2007; Occupational Health Clinics for Ontario Workers Inc., 2020; U.S. Bureau of Labor Statistics, 2020). Consensus was established on the definitions as:

Physical readiness: Is healthy and fit for the job; can safely perform and complete tasks; has equipment and technology competencies; maintains necessary supplies; has environmental stamina; manages fatigue, food and hydration.

Technical readiness: Has knowledge and application in the field; communicates effectively (verbal and written); understands the organisation and client culture and setting; manages operational logistics; and can access resources.

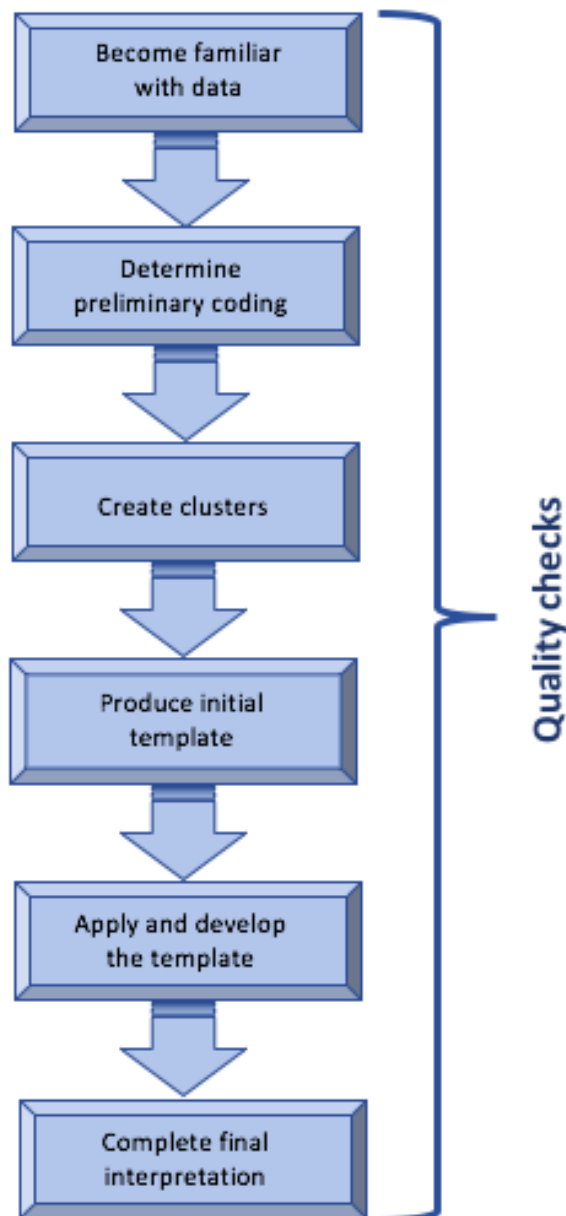
Mental readiness: Is committed and confident; uses positive imagery; mentally prepares; is able to fully focus; can manage distractions; and can accept constructive evaluation and copes.

Open-ended questions addressed mental, physical, and technical factors influencing performance—not examined by Orlick and Partington. This approach expanded MMR by refining theories and reflecting on current field practices, as recently encouraged by Toraman et al (2024).

2.5.3 Data collection and analysis methods

Concurrent data collection involved semi-structured interviews for in-depth insights into how these high performers prepare (Wooffitt & Widdicombe, 2006). When resources were limited, focus groups, online surveys, and case studies were used. The dentistry study included stakeholders impact statements, while the policing study gathered longitudinal data. Independent reviewers handled all data. The datasets contained quantitative measures of overall operational readiness and qualitative analysis to define success elements.

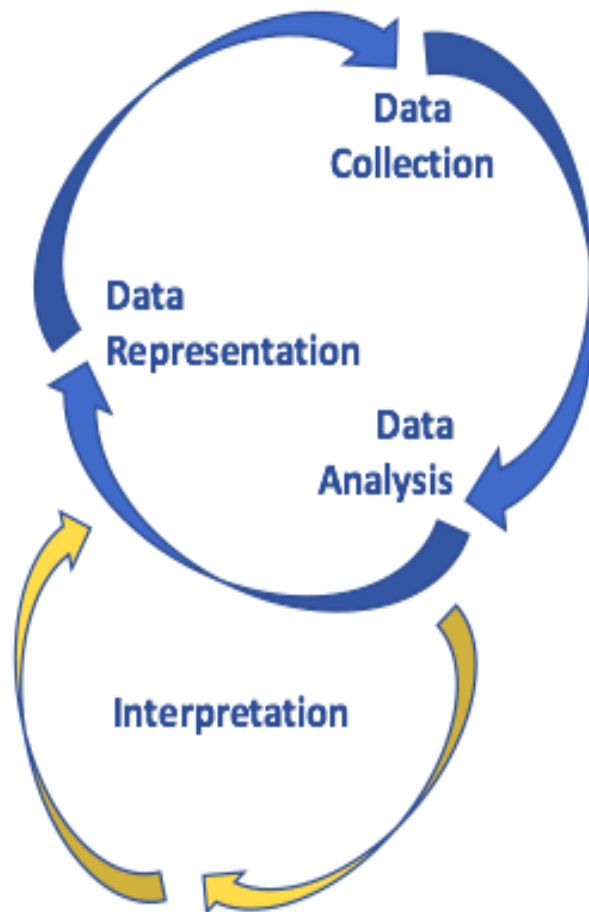
Quantitative data. Numerical ratings (single truths), of physical, technical, and mental readiness, were analysed using statistical tests (specifically Mann-Whitney and Wilcoxon tests) with reflective thinking enhancing transparency (Jamieson et al., 2023).



Qualitative data. Mental readiness was analysed using template analysis and immersion-crystallisation. Template analysis, part of *thematic analysis*, considers the ‘why’ and ‘how’ in both quantitative and qualitative research (Braun & Clarke, 2019). It began with predefined (a priori) coding (King, 2012; King & Brooks, 2016), using Orlick’s Wheel of Excellence.

The scope expanded to include detailed physical and technical readiness indicators, with advanced statistics covering practice consistency, correlations, influential factors, practice and block classifications, and temporal changes—ultimately expanding Orlick’s Wheel of Excellence into an Operational Readiness Framework. Custom profiles and tools were developed to meet specific stakeholder needs.

Figure 2.3 Stages of Template Analysis [Adapted from King & Brooks, 2016; King et al., 2018, p. 186]



The *immersion-crystallisation* method, which involves deeply engaging with data (immersion) and synthesising emergent patterns (crystallisation), was used to holistically understand the data (Borkan, 2022). Conclusions were validated through data verification and alternative explanation exploration, prioritising flexibility, objectivity, context-specific analysis, and thoroughness.

These methods for identifying themes and interpreting data (multiple truths) within and between the six professions studied are illustrated in Figures 2.3 and 2.4, and detailed in Appendix D and Chapter 4, where study findings are critically appraised and synthesised.

Figure 2.4 Immersion-Crystallization Process [Adapted from Borkan, 2022, p. 2]

From a broad conceptual perspective, 20 risk management principles (Bhuller et al., 2024) were applied across the various professional contexts. Each principle, using operational definitions for physical (P), technical (T), and mental (M) readiness, was categorised as predominantly P, T, or M. Their relevance across professions was then rated as highly irrelevant, somewhat relevant, or highly relevant for further insights.

2.5.4 Ethical positioning

Ethics principles guided all research processes, including participant consent, data collection (privacy and confidentiality), analysis, and dissemination, in line with recognised ethics standards (Brinkmann & Kvale, 2017; Madill, 2012). The British Psychological Society's (2021) ethical principles were also followed, emphasising:

- ♦ respect for the autonomy, privacy and dignity of individuals, groups, and communities
- ♦ scientific competence and integrity
- ♦ social responsibility

For instance, based on pilot feedback, tape-recording retention was reduced from 10 years to one-year post-publication. Bias was minimized by using a consistent interviewer and independent analysts, with results disseminated to participants and appropriate end users in a timely manner.

2.6 Reflections

The text box below contains my personal reflections on my research design. This mixed-methods research portfolio highlights interprofessional collaboration, process refinement through reflection, and the integration of theory and current issues with real-world practices. Chapter 3 follows, providing a detailed overview of these studies.

Reflecting on my research designs, I resonated with Nightingale’s mixed methods approach, which deepened my understanding of Sherpa guides’ intuitive readiness in extreme Nepalese conditions—from managing demanding tourists and strict regulations to facing the world’s highest mountains. Engaging with many “exceptional” frontline individuals, I gained respect, humility, and the privilege of entering their inner circles—essential for understanding professions that safeguard society. Their autonomy highlighted the futility of manipulating responses, as they act on their own principles. Collecting stakeholder impact statements proved invaluable and was successfully replicated in a recent mountaineering tourist preparedness publication. As an external academic, validation came when a police officer told me, *“What you bring to the table is an unbiased, objective approach with evidence-based, practical ideas.”*

Chapter 3

Publication Portfolio

This chapter provides an overview of five recent peer-reviewed publications and one peer-reviewed, single-authored book, each contributing to the refinement and application of the *Operational Readiness Framework* across diverse high-risk professions. Three in-depth studies explore legendary Sherpa guiding (McDonald et al., 2015), frontline work in homelessness services (McDonald & Hale, 2022), and world-wide dentistry (McDonald & Paganelli, 2021). Two applied research publications define core competencies for global health research abroad (McDonald & Gyorkos, 2016) and strategies to improve neurosurgeons' focus in the operating room (McDonald, 2021). The book, *Gold Medal Policing, 2nd edition* (McDonald, 2025), is a comprehensive guide on operational readiness in law enforcement, featuring new coach-officer data.

The chapter concludes by presenting four practical tools derived from this portfolio, elevating the research to real-world applications. Appendix E highlights favourable independent reviews.

3.1 Expansion into public health

Early research with surgeons, air traffic controllers, and police underscored the impact of frontline readiness on public health and safety. These studies focused on professions critical to society's infrastructure, responsible for maintaining excellence. Subsequent studies expanded into public safety, psychosocial, medical, and protective services, aiming to enhance performance and risk management.

In high-risk occupations, physical and technical readiness practices are well-established and evaluated, whereas mental readiness needs further definition. Initial investigations utilised the Wheel of Excellence from Olympic athletes, identifying key mental success elements: commitment, confidence, positive imagery, mental preparation, full focus, distraction control, and constructive evaluation. This systematic, adaptive approach led to the development of the Operational Readiness Framework, which generated practical tools and cross-disciplinary comparisons, organised chronologically to showcase insights and advancements.

3.2 Public Safety Services—High-altitude Sherpa mountain-guiding

[McDonald, J., Dahal, G. P., Tyshenko, M. G., Sloan, D. A., & Sharma, S. K. \(2015\)](#)

On April 18, 2014, an avalanche near Everest Base Camp killed 16 Nepali Sherpa guides, highlighting the extreme risks they face, far greater than those of climbers (BBC News, 2014). While previous research focused on climbers' mental preparedness, Sherpas, operating above 7,000 meters, bear greater risks and responsibilities, such as setting up ladders in advance (Burke & Orlick, 2003). Despite over 200 deaths on Everest, the mountain's allure remains strong.

Nepal, a United Nations (UN)-designated 'least developed country,' struggles with poverty, economic vulnerability, and limited resources (UN-OHRLLS, 2015; UNDP, 2011). Despite Nepal's tourism policy emphasising safety, it lacks tools to evaluate guiding services (Federation of Nepalese Chambers of Commerce and Industry, 2015). Nepal's 2014-2023 vision focuses on sustainable tourism and economic growth (Government of Nepal, 2013).

This scoping study, supported by IUCN Nepal and the Canada Foundation for Nepal, examined excellence in guiding and psychological preparedness of Sherpa guides in high-altitude expeditions (McDonald et al., 2015). Fieldwork involved 40 days of focus groups, consultations, and a trek to Everest Base Camp (5,364 m/17,598 ft), developing an interview guide tailored to cultural sensibilities.

Table 3.1 highlights eight key conclusions, emphasising mental readiness, stakeholder collaboration, emerging challenges like ill-prepared tourists and ecological degradation, and the alignment with Nepal's sustainability goals in tourism and mountaineering.

Table 3.1 Key Conclusions from the Study of High-Altitude Sherpa Mountain Guiding

Characteristic	Details
Risks and challenges	Categorization of challenging situations for high-altitude expeditions was in six areas from risk level, complexity to first-of-its-kind events, which included environmental rigors, limited provisions, obstinate and unfit clients, and aspirations to set new records.
Performance excellence	Exemplary guides for expeditions over 7,000 m were defined as requiring physical fitness, technical prowess, adaptability to weather, leadership, adept negotiation, organisation of supplies and logistics, equipment knowledge, first aid proficiency, altitude familiarity, interpersonal finesse, courage, and sound judgement. The clients' perceptions dictated "success" and "disappointment."
Importance of readiness	Operational readiness was quantified where mental readiness (37%) surpassed physical (33%) and technical (30%) readiness.
Mental readiness	Positive imagery, self-confidence, and commitment were key. Visualisation techniques simulated maneuvers and strategising routes. Native Nepali guides derived confidence from the country's natural beauty and their reputation as the most responsible climbers in the world.
Further research	This study confirmed the feasibility of conducting an operational readiness assessment with mental readiness as a cornerstone. The methodology can be used to assess the performance of elite Nepali mountain-guides, setting benchmarks and guiding future interviewing logistics.
Watch items	Emerging concerns included ill-prepared tourists, ecological degradation, changes in guiding culture in attracting more female guides, generational disparities, socio-economic obstacles (education, alcohol dependency, unemployment), and coping strategies for guides and their families. Human-resource challenges included training shortages, personnel attrition, stress, low morale, inconsistent performance, and inadequate mentoring.
National sustainability goals	The study supported and aligned with Nepal's tourism and mountaineering objectives, enhancing human resources, improving quality standards, and increasing tourism. It offered insights for training organisations, rescue operations, policy makers, and mountaineering proponents.
Stakeholders	Meeting stakeholders promoted collaborative engagement from mountaineering associations, expedition companies, the tourism board, the Ministry of Tourism, educational institutions, and government bodies, and was essential to enhance Sherpa guide operational readiness, economic sustainability, and tourism quality in Nepal.

This study revealed both practical and theoretical lessons learned regarding conducting research abroad, networking with stakeholders, and the need to expand Orlick's model.

3.2.1 Cultural acclimatisation. Immersing in elite high-risk professions requires more than literature review and interviews. It necessitates cultural understanding, operational familiarity, and open dialogue with stakeholders. This includes adapting to local customs, handling power outages, and overcoming language barriers.

- 3.2.2 Common frontline challenges.** Sherpa guides face similar challenges to frontline police officers, including limited training time, mentorship gaps, elevated stress, feeling undervalued, and inconsistency in their performance.
- 3.2.3 Network opportunities.** Engaging stakeholders through workshops, focus groups, and forums aligned with Nepal’s tourism goals, used platforms like Everest summiter ceremonies and Nepal Mountaineering Association courses.
- 3.2.4 Orlick’s model.** Sherpas have a balanced readiness profile—mental skills (37%), physical abilities (33%), and technical expertise (30%)—highlighting the under-representation of physical and technical competencies in Orlick’s Wheel of Excellence.
- 3.2.5 Practical resources.** A follow-up study proposed developing measurable tools to advance Nepali mountain-climbing services, based on ‘gold-medal’ standards—subsequently actualised in a publication to better prepare tourists (McDonald et al., 2023).

3.3 Public Safety Services: Global Health

[McDonald, J. & Gyorkos, T. \(2016\)](#)

Dr. Theresa Gyorkos, a parasite epidemiologist at McGill University, saw the potential of my research for global-health studies, particularly for preparing graduate students for international work (DeCamp et al., 2013). Her endorsement brought a fresh epidemiological perspective, aligning with the Canadian Coalition for Global Health Research (CCGHR) principles of ethical global health actions (CCGHR, 2015).

To explore readiness profiles for global health researchers, 259 professionals at two summits provided insights for ethically complex case studies simulating real-world challenges (CCGHR-CSIH, 2015; GHSYP, 2015). Table 3.2 summarises five conclusions, highlighting challenges like ethical decision-making, and cultural complexities, and the essential role of mental readiness and cultural humility in international research.

Table 3.2 Key Conclusions from the Study of Global Health Researchers

Characteristic	Details
Risks and challenges	Challenging situations for global health researchers in real-world case studies involved ethical decisions, cultural rules, authorities, deadlines, and adverse events.
Performance excellence	Frontline traits for high-performance occupations were confirmed with these researchers as including excellence, direct responsibilities, critical “peak” events, risk, and skilled training. Additional characteristics of excellence were identified as welcoming, open, mutually respectful, and equitable.
Readiness definitions	Criteria for defining readiness for international travel were adapted to include: <ul style="list-style-type: none"> • Physical health: vaccinations, health information, and tolerance for local food and water. • Technical knowledge: culture, local infrastructure with supportive key personnel and resources, ethics, and logistics. • Mental acuity: cultural humility, awareness of personal travel motivations and realities abroad, and emotional support.
Importance of readiness	The importance of readiness was ranked after successful research abroad was explored. While technical and mental readiness were equally important (42% and 40%), physical readiness received less emphasis (18%).
Mental readiness	Mental-readiness skills required for conducting health research abroad were detailed for each of the seven success elements, such as using <i>mental preparation</i> to triumph over unexpected challenges, and having the <i>commitment</i> to represent your country with integrity while working in a foreign environment. Focusing on the task-at-hand with culturally sensitive and humility, while being mindful, patient, calm, and adaptable were highlighted.

Lessons learned emphasise trust, mental core competencies, and alignment with global health objectives. Notably, our research aligned with WHO’s Global Competency Model (WHO, 2021), underscoring the significance of operational readiness.

3.3.1 Biostatistical positioning. Employing non-selective sampling and real-world case studies helped develop core competencies by blended empirical assessment and risk management with global-health needs.

3.3.2 Trust. Trust emerged as a cornerstone, emphasising partnership, humility, empathy, and mutual respect.

3.3.3 Mental core competencies. Mental readiness was fostered through self-awareness of biases, resilience, curiosity, adaptability, and a willingness to seek and accept feedback.

3.3.4 Confidence and humility. These qualities were keys in overcoming failures, ethical dilemmas, and cultural challenges during overseas research.

3.3.5 Alignment with governing bodies. Remarkably, without prior coordination, our research aligned with CCGHR and WHO objectives (CCGHR, 2015; World Health Organization, 2021), particularly in developing a global health Operational Readiness Index [Physical (P) 18%, Technical (T) 42%, Mental (M) 40%], which closely matched the [World Health Organization \(WHO\) Global Competency Model](#) (P15%, T46%, M39%) (Table 3.3).

Table 3.3 Key World Health Organization Global Competency Model [Adapted from [WHO Core Competences](#)]

WHO Global Competencies	Readiness Competency		
	Physical	Technical	Mental
1. Communicating in a credible and effective way.		X	
2. Knowing and managing yourself.			X
3. Producing results.	X		
4. Moving forward in a changing environment.			X
5. Fostering integration and teamwork.			X
6. Respecting and promoting individual and cultural differences.		X	
7. Setting an example.		X	
8. Creating an empowering and motivating environment.			X
9. Ensuring the effective use of resources.	X		
10. Building/promoting partnerships across the Organization and beyond.		X	
11. Driving WHO to a successful future.			X
12. Promoting innovation and Organizational learning.		X	
13. Promoting WHO's position in health leadership.		X	
TALLY (out of 13)	2/13	6/13	5/13
WEIGHTED PERCENTAGE	15%	46%	39%

In summary, this research underscores operational readiness in global health, balancing technical, physical, and mental preparedness. It promotes collaboration with governing bodies to ensure practical insights for overseas researchers.

3.4 Psychosocial services: Frontline workers in homelessness services

[McDonald, J. & Hale, K. \(2022\)*](#)

** This article originally appeared online in pre-publication form in 2021. It is presented in this order since it influenced the dentistry tools.*

Addressing homelessness requires innovation (Aubry et al., 2020; Strobel et al., 2021) and collaboration among municipal leaders (City of Ottawa, 2017, 2018a, 2018b), street medicine teams (Manning & Greenwood, 2019; Street Medicine Institute, 2018), and frontline workers in homelessness services (FWHSs) (Graham & Shier, 2014; Mitchell et al., 2017). Recognising burnout risks faced by those in preventive roles (Waddington, 2017), this three-year study focused on enhancing performance predictability, competence, and wellbeing.

The adapted investigative process was used to assess mental readiness and performance excellence in 35 exceptional FWHS professionals in Ottawa, identified through anonymous surveys by 123 peers and supervisors, serving diverse populations, including Indigenous communities and LGBTQ2S+ individuals. Adapted from previous studies with surgeons and police, the study included pilot tours, surveys, a think tank, and focus groups with subject matter experts.

FWHS stand out in their openness to share and drive for professional growth. Key findings highlight their unique challenges, the importance of mental readiness, and tools and training strategies to mitigate burnout and improve services. The study's impact is reflected in its rapid download rate and wide dissemination (Appendix E). Table 3.4 summarises key conclusions about the challenges and readiness of FWHSs in high-stress environments, emphasising mental readiness and the need for tailored training tools.

Table 3.4 Key Conclusions from the Study of Frontline Workers in Homelessness Services (FWHS)

Characteristic	Details
Risks and challenges	Identified daily challenges faced by FWHSs created a comprehensive job description. The most prominent challenge categories: (a) degree of difficulty, including suicide events, ethical dilemmas, and hygiene issues; (b) particular client behaviour, such as untreated mental health conditions, instances of abuse like spitting, and communication difficulties; and (c) complexity, involving legal actions, landlord interactions, and dealing with infestations like bed bugs and cockroaches.
Importance of readiness	Mental readiness outweighed physical (24%) and technical (29%) readiness, with a substantial importance rating of 47%. 'Exceptional' FWHSs reported 44 distinct practices aligned with Orlick's seven mental-readiness success elements.
Mental readiness	'Exceptional' FWHSs consistently display strong <i>commitment</i> (averaging 3 out of 4 practices per FWHS), driven by a sense of profound responsibility and care. Methods for maintaining <i>focus</i> were varied and individual, such as improving communication, staying calm, taking breaks, or seeking team support. Gaining <i>confidence</i> was also individualized and deviates from the norm in <i>not</i> counting on past training, rather relying on low expectations, optimism, or peer support. Amid chaos, their <i>distraction control</i> prioritizes communication, calmness, and observation.
Physical and technical readiness	Physical- and technical-readiness performance indicators and practices were refined by subject matter experts to assemble a complete profile of operational readiness competencies.
Distribution and consistency	Detailed statistics showed variations in using 44 distinct mental-readiness practices among FWHSs. On average, each FWHS employs 20 of the 44 practices, ranging from 2 to 10 per success element. <i>Mental preparation</i> and <i>distraction control</i> are favoured, each at 23% of the 44 practices, while <i>positive imagery</i> has only two (5%).
Tool development	The creation of a tailored mental-readiness tool identified six common practices (used by over 75% of 'exceptional' FWHSs): responsibility, genuine care, positive thinking, concentration, crisis control, and self-reflection, underscoring the importance of flexible training, recruitment, and evaluation processes.
Training	A comprehensive list of challenges, an operational readiness profile, and a Site Training Assessment for FWHSs were created as practical training tools to enhance readiness, performance, candidate screening, and mentorship.

Key lessons learned include evidence-based recruitment and training guidance, innovative research methods, and strategies for reflective practice and burnout prevention.

3.4.1 Participant, recruitment, and selection. An evidence-based framework was designed for FWHS recruitment to assess mental-readiness practices, particularly commitment and constructive evaluation, which FWHSs identified as challenging to train.

- 3.4.2 *Supportive training.*** Ongoing specialised training and self-assessment tools can build confidence, establish preparedness rituals, and improve focus. Supervisory training programs were requested to better understand effective frontline practices.
- 3.4.3 *Development and testing.*** Collaboration with frontline experts facilitated the development of practical tools that integrated research findings. Physical and technical occupational functionalities were used as references (General Healthcare Resources, 2020; Lechner, 2007; Occupational Health Clinics for Ontario Workers Inc., 2020; U.S. Bureau of Labor Statistics, 2020). Job-specific performance indicators were created to define physical (24%), technical (29%), and mental (47%) readiness.
- 3.4.4 *Collaborative research.*** Amid time and financial constraints, pursuing innovative approaches, such as co-worker interviewing (Tracy, 2010) and integrating Indigenous and mainstream sciences, such as “Two-Eyed Seeing” (Bartlett et al., 2012), fostered shared data collection and interconnectedness.
- 3.4.5 *Promotion of reflective practice.*** Critical reflection on daily challenges and assumptions within a broader framework fosters self-awareness, effective coping strategies, and protection against burnout (Freire, 1970; Thompson & Pascal, 2012). Regular supervisory sessions and respecting social workers’ independence enhance reflexivity, while an excessive task-oriented, accountability-focused approach, especially with limited resource, can hinder for both social workers and clients (Ravalier et al., 2023).
- 3.4.6 *Burnout prevention.*** Incorporating preparedness into organisational plans can mitigate burnout and work-life balance issues (Shanafelt et al., 2015) and enhance worker safety and resilience (American Psychological Association, 2011).

This study underscored the need for efficient strategies for addressing homelessness from municipal leaders, street medicine teams, and FWHS, highlighting FWHS-tailored preparedness tools to improve performance and wellbeing.

3.5 Medical Services: Dentistry

[McDonald, J. & Paganelli, C. \(2021\)](#)

Advances in oral health are largely attributed to better living conditions, hygiene, reduced smoking, and fluoride toothpaste than to clinical procedures or insurance factors (Baelum et al., 1997; Fejerskov et al., 2013; Norderyd et al., 2015). Dentistry must adapt to WHO's shift from disease treatment to oral health promotion within primary healthcare teams (Cohen et al., 2017; FDI World Dental Federation, 2015).

This evolving landscape prompted mixed-method sampling, consistent terminology, and interprofessional exploration. In-depth case studies with four practicing dentists provided insights into mental readiness in dentistry, aiding tool development. Although the small sample size limited generalisability, the focus was on the transferability of the Operational Readiness Framework. The study examined hand skills, injury, artistry, business operations, and clinical excellence, highlighting well-defined physical and technical practices while refining mental readiness.

“Disappointing” performances involved procedural errors, non-profitable outcomes, late-day complications, and patient education failures. Dentists emphasised ergonomic positioning, technical knowledge, and mental skills like relationship-building, ethical treatment, and long-term coping (Gregorczyk & Bailet, 2008). Successful outcomes were defined by complication-free procedures and patient satisfaction. Table 3.5 presents key conclusions, emphasising the challenges for seasoned dentists, mental readiness, and the integration of physical and technical performance indicators to enhance operational readiness.

Table 3.5 Key Conclusions from the Study of Dentists

Characteristic	Details
Risks and challenges	Daily challenges for these seasoned dentists were identified within five categories that included: particular patient behaviour (from distracting behaviours to medical complications); degree of difficulty/risk (medically and legally); degree of complexity (from many simple tasks to relieving pain); teaching/managing responsibilities; and special-relationship pressures (with family members or patients).
Importance of readiness	Mental readiness emerged as the most critical competency, accounting for 49% of overall success. In contrast, technical (28%) and physical (23%) readiness were closely balanced.
Mental readiness	All seven of Orlick's success elements were evident. For instance, <i>commitment</i> in dentistry arises from work quality, integrity, and work-life balance, while <i>confidence</i> is built through repetition, patient assessment, acceptance of like-minded patients, teamwork, and ongoing education.
Physical and technical readiness	Physical- and technical-readiness performance indicators and practices were refined by a subject matter expert to assemble a complete profile of operational readiness competencies.
Cross-disciplinary practices	Similar mental practices were identified in successful nursing, including interpersonal understanding, commitment, persuasiveness, compassion, comforting, and self-control (Zhang et al., 2001). This finding offers guidance for training, evaluation, and benchmarking within the dental field.
Tool development	Operational Readiness Performance Indicator profile and tailored Clinical Training Assessment were adapted from social services tools.
Potential impact	Stakeholder impact statements were gathered from undergraduates, a hygienist, a seasoned dentist, and a Dean to gauge the value added. Highlights included: adaptations for post-pandemic conditions, mental readiness 'survival' skills, holistic integration of 'soft skills,' and early interprofessional collaboration.

Lessons learned highlight the significance of mental readiness and evolving interprofessional collaboration in dentistry, emphasising the need for updated curricula and practical training tools to enhance operational readiness.

3.5.1 Comparative readiness assessments. A comparative analysis across health professions showed dentists and surgeons shared high mental readiness scores (49%), but surgeons required much less physical readiness (10%). Dentistry had more balanced physical (23%) and technical (28%) readiness scores. This difference may arise from the nature of practice: surgeons operate on unconscious patients, whereas dentists work in patient's conscious "private space." Like dentists, social workers prioritise communication, empowerment and de-escalation.

3.5.2 Interprofessional clinical training. Effective interprofessional collaborations, spotlighted by the WHO, enhance clinical competencies (FDI World Dental

Federation, 2015). A 2021 US-Europe Congress Roundtable (WCDS, 2021) featured virtual Grand Rounds for complex cases (Duane et al., 2019), promoting shared strategies, pre-procedural routines, visualisation techniques, and patient empowerment (Leung et al., 2021; Tonni et al., 2020).

- 3.5.3 *Dental curriculum update.*** The outdated dental curriculum, stagnant for four decades, needs re-evaluation to match evolving environments (Collins, 1975; Cohen et al., 2017; Yip & Smales, 2000) and the Dentistry Operational Readiness Index. COVID-19 pandemic demonstrated the potential for adapting practices (Chang et al., 2021; Quinn et al., 2020). Integrating mental readiness into learning objectives, as done in nursing (Zhang et al., 2001), along with a five-year performance follow-up for graduates, is recommended.
- 3.5.4 *Adapted training tools.*** Clinical training must produce competent dentists capable of delivering safe, courteous, and effective care (DentEd., 2010). Tools like the “Profile of Challenging Situations in Dentistry” and “Clinical Training Assessment” (Figures 3.1 and 3.3 respectively) can enhance operational readiness and should undergo clinical trials to evaluate their impact.
- 3.5.5 *Evolving trends in dentistry.*** Dentistry is changing, with graduates favouring group practices amid new restrictions. Strategies to enhance work-life balance, dentist-patient relationships, and interprofessional preparedness are essential, as dental visits now involve an oral health ‘care team.’

This research emphasises the importance of mental-readiness in dentistry, garnering attention related to the changes needed in the oral-health curricula (Arroyo-Bote et al., 2023) and visualisation for critical procedures (Wright & Shah, 2023). Comparative studies with surgeons and social workers reveal both commonalities and distinctions.

3.6 Medical Services: Neurosurgery

[McDonald, J. \(2021\)](#)

In 2020, I led a webinar titled “Mental Readiness in Pediatric Neurosurgery” (McDonald, 2020a). Despite the passage of 30 years since the original study, mental readiness in pediatric neurosurgery remains largely underexplored. Surgeons raised questions about maintaining focus, the impact of arrogance, mindfulness techniques, and simulation models. Following the webinar, I was invited to submit a manuscript to the *Archives of Pediatric Neurosurgery* on surgical focus.

The publication, drawing on surgical research and insights from police and Sherpas, detailed strategies for focus in the operating room, such as:

Positive psychology—*It’s stressful but at the same time it’s fun. Sure, it is! When I’ve had a successful surgery, I was usually feeling good, and that makes a difference... If it’s not fun, then it’s difficult.*

—Neurosurgeon, p.2

Mindfulness—*Economy of movement is the most important thing in good surgery. Do everything right the first time. If you’ve got to go back in to do something, you’re going to have many more problems... Just carry on. No matter what, just take your time and do it right.*

—Cardiac surgeon, p.4

Source: McDonald, 2021

This work has garnered acclaim for its relevance to trainees and young consultants, filling a gap in the surgical community (see Appendix E). Table 3.6 summarises effective practices for maintaining total concentration and emotional control in surgery, relying on mindfulness and strategic recharging, especially during challenging or mundane tasks.

Table 3.6 Key Conclusions from the Study of Neurosurgeons

Characteristic	Details
Total concentration	Focus on each step, each layer below the skin; enjoy that migraines disappear in challenging surgeries; rituals will set the tone; take care of the little things first; align challenging surgeries with internal clock.
Emotional control	Find emotional wellbeing for a full focus; be honest with patients; stand to gain from being friendly with family, colleagues, team, patient, and hospital administration; scrub-up, psyche-up and focus.
The 'mundane'	Anticipate low situational awareness during low-workload periods; recognize that 94% surgeons report the danger of drifting during uninteresting or routine situations or delays; improve passive distraction control through relaxing, shifting tasks, thinking positively, or being aware that this could be "the big one."
Mindfulness	Be "in the zone" like being in auto-pilot; trust in yourself and your training; connect with relevant cues for the task; strive for economy of movement; take mental time outs; stay positive to sustain alertness and persistence during long surgeries; remain in the moment; take a breath, put your hands together, and be still.
Recharge or Plan B	Eat strategically; sleep to build long-term memory; take mid-day naps; find work-life balance; learn to rest anywhere; have a Plan B or a back-up to scrub in.

Insights were gleaned from this research, supported by over two decades collaborating with surgeons in their specialised fields.

3.6.1 Research responsiveness. Effective research begins by listening to the audience's concerns and priorities, whether expressed through webinars, informal discussions, or meetings. In this case, existing data were analysed to deliver evidence-based strategies directly responding to expressed needs.

3.6.2 Vigilance. In high-risk professions like surgery, vigilance is essential to prevent complacency, particularly during low-stress, repetitive or routine tasks where 'flow' is absent (Csikszentmihalyi, 1975, 1990). Preparedness training promoting relaxation, positive mindsets, persistence, and continuous learning is vital in combatting passivity and preventing attention lapses.

3.6.3 Longevity of original research. Widely recognised for its behavioural markers, seminal research on surgical mental readiness (McDonald & Orlick, 1994; McDonald et al., 1995) has been cited more than 85 times in new fields such as transplantation, robotics, and pandemics (Carthey et al., 2003; Cocks et al., 2014; Davison et al., 2017), maintaining its influence as a key reference in Google Scholar and Omni Libraries.

The concept of mental readiness amongst surgeons was introduced by McDonald in 1995. In this landmark study... mental readiness and rehearsal in over 70% of surgeons have continued to be practiced and developed by today's surgeons.

Source: Skervin & Scott, 2021, p. e432

3.6.4 *Psychology resource in surgery.* This research serves as a cornerstone in understanding mental readiness, influencing surgical fields globally. Mental imagery and rehearsal have been cited as enhancing surgical skills (Souki et al., 2021), emergency tasks (Marquardt et al., 2023), team emotional intelligence (Fletcher et al., 2024), reduced workload and stress before procedures (Osborne-Grinter et al., 2021), while improving OR communication (Agarwal et al. 2019).

3.6.5 *Targeted improvement strategies.* The research highlights the power of qualitative data in developing adaptable strategies for high-risk professions, uncovering surprising parallels across seemingly unrelated domains. These insights provide a toolkit for managing distractions, preserving confidence, and even mastering sleep (McDonald, 2020b). Bajpai and Lindeman (2021) advocate for broadening medical education beyond technical skills to include leadership, teamwork, and error analysis.

In summary, this research emphasises the need for responsiveness, disciplined vigilance, and the enduring importance of mental readiness in shaping medical training through rigorous interdisciplinary study.

3.7 Protective Services: Policing

[McDonald, J. \(2025\)](#)

The initial release of “Gold Medal Policing” (GMP1) (McDonald, 2006) gained global recognition, leading to its integration into recruitment, training, and field assessments. In 2020, Routledge requested a second edition (GMP2) (McDonald, 2025), incorporating two decades of research, coach-officer data, and key lessons.

3.7.1 Literature reviews

A comprehensive review was conducted from 2000 to 2022, yielding six emerging themes to inform and ground future directives:

Predictors of police performance (Vyas et al., 2025a). Updated core competencies emphasise composure, maturity, and responsible conduct while avoiding aggressiveness (Charles, 2009; Forero et al., 2009; Tarescavage et al., 2015). Enhancing public trust through problem-solving training develops judgment and ethical decision-making (Massinger & Wood, 2016; Renden et al. 2016; Sindall et al., 2012). Current wellness and leadership initiatives prioritise courage, community engagement, and diversity (Arnetz et al., 2009; Guajardo, 2015; Waggoner et al., 2020).

Police performance stressors (Vyas et al., 2025b). Strategies include confidential self-diagnostic techniques for tracking stressors (McCreary et al., 2017; Violanti et al., 2017; Bailey, 2019), coaching, mentoring, and work-life balance (Maguen et al., 2009), dialogues on job satisfaction disparities (Waters et al., 2007), wellness programs (Zimmerman, 2012), and interprofessional collaborations to reduce conflicts (Lepine et al., 2005; Lockey et al., 2021).

Critical analysis of the “Road to Mental Readiness” (R2MR) program (Abu-Alhassin et al., 2025b). Suggestions include adapting programming for diverse mental-health needs (Corrigan, 2012; MHCC, 2017; Carleton et al., 2018), validating training effectiveness (Andersen, 2007; Blais et al., 2009; Carleton et al., 2020), supporting supervisors with mental-health counseling resources (Fikretoglu et al., 2014), and investing in e-tools for assessments (Roland & Bartone, 2015; Tam-Seto et al., 2018; Vermetten et al., 2020).

Police physical competencies (Tyshenko et al., 2025a). Strategies emphasise increased training for perishable skills and adaptability (Mastison, 2015; The Academy, 2020; Torres and Kim, 2019), prioritising mental-health calls with reduced force (Chidgey et al., 2019; Rogers et al., 2019), tailored scenario training (Rojek et al., 2020), analysing risk factors

for gear usage and injuries (Helsby et al., 2018; Lyons et al., 2017; Tomes et al., 2017) and protective driving (Tiesman et al., 2010, 2015; Wehr et al., 2012).

Police technical competencies (Tyshenko et al., 2025b). Deploying mobile technology, body cams, and dataflow platforms in high-risk areas is critical (Koper et al., 2015). Strengthening rookie articulation through simulations improves responses during hate crimes and mental-health incidents (Faggianni, 2006; Charles, 2007). The need to hone cognitive interviewing and note-taking skills has also been identified (Dando et al., 2008). Information sharing (Bratton & Malinowski, 2008; Massinger & Wood, 2016) and specialised counterterrorism training are encouraged (Losel et al., 2018; Nagengast, 2021; Paton & Violanti, 2006).

Police mental competencies (Abu-Alhassin et al., 2025a). Focus areas include positive imagery, mental preparation, full focus, and distraction control (Orlick, 1992; 2003), and addressing ethical dilemmas, misconduct, and biases (Breevaart et al., 2015; Gaither, 2017; Lasiewicki, 2007). Commitment is cultivated through leadership (Charman, 2020), emotional control, visualisation, breathing practices (Johnsen et al., 2017), and building resiliency to reduce PTSD risks.

Table 3.7 summarises the new findings from this work, highlighting a 10% increase in the importance of mental readiness over time and the diverse preparedness required in physical and technical competencies for peak police performance.

Table 3.7 Key Conclusions from the Study of Police

Characteristic	Details
Research review	An extensive literature review spanning the period from 2000 to 2022, distilled six emerging policing themes: performance predictors, performance stressors, critical analysis of the "Road to Mental Readiness" (R2MR), and physical, technical, and mental competencies.
Police Operational Readiness Index (ORI)	Mental readiness (44%) was key to peak police performance, followed by technical (30%) and physical (26%) readiness. Despite technology advances, and changes in policing methods from 2003 to 2019, physical and technical readiness declined by 4% and 6%, while mental readiness increased by 10%, highlighting its growing importance in policing.
Mental readiness	The study confirms Orlick's seven mental success elements in top police officers, with <i>full focus</i> (83%), <i>mental preparation</i> (80%), and <i>commitment</i> (77%) most practiced. <i>Confidence</i> stems from quality training and mentorship. <i>Distraction control</i> and <i>constructive evaluation</i> vary by role; tactical officers prefer team debriefs, while school resource officers value public feedback.
Physical and technical readiness	Physical readiness includes officer safety, use of force, and vehicle operations, emphasizing proper handcuffing and body searches, fitness and wellbeing, and environmental adaptability. These practices highlight the diverse yet standardized preparedness among officers. Technical readiness relies on law proficiency, effective communication, and community knowledge. Verbal communication focuses on conflict prevention, de-escalation, and rapport building.
Performance blocks	Forty-five performance blocks categorized as operational, organizational, and external contribute to challenges in law enforcement, affecting efficiency and morale. These include situational issues such as rookie errors, administrative hurdles, and external pressures and conflicts, reflecting the complex dynamics of policing.
Watch items	Emerging trends and "watch items" in police performance variability include: balancing teamwork and individual accountability; monitoring general and fewer specialized strategies; addressing workload and burnout; ensuring transparent AI integration; proactive career planning for leadership.
Influential factors	Analysis of 22 factors in seven success elements reveals elite status, frontline specialty-unit experience, gender, and patrol-only experience as the most influential on skill development. Elite officers excelled in physical competency, officer safety, and commitment, while patrol-only officers showed strengths in fatigue management and formal evaluations but lower physical discipline and job satisfaction.

This research targets leaders, frontline officers, and academics, integrating current literature, insights from 81 “excellent” frontline officers and coach officers, and 15 years of teaching and consulting in policing. Key lessons highlight the growing importance of mental readiness and the need for effective performance management to tackle evolving operational challenges.

- 3.7.2 *Research approach.*** The study developed a comprehensive “Operational Readiness Framework,” offering a structured methodology to improve physical, technical, and mental competencies in policing.
- 3.7.3 *Updated data.*** The research was enriched by incorporating data from 33 active coach officers, augmenting both quantitative and qualitative measures of operational readiness.
- 3.7.4 *Atypical longitudinal design.*** Spanning 2003 to 2019, this longitudinal study (atypical, in the sense of collecting data from two groups of police officers at two points in time, with a time interval of 17 years) highlighted shifts in policing, including wellbeing, mental-health calls, and responses to new challenges like mass protests, hate crimes, terrorism, and technology.
- 3.7.5 *Quotations and terminology.*** Feedback from peer reviews led to refined quotations and terminology, making the book more inclusive and engaging. Timeless quotes were retained, dated content was replaced with fresh, relevant material.
- 3.7.6 *Knowledge transfer and tool development.*** A new chapter captures lessons learned from implementing evidence-based recommendations, complemented by ready-to-use templates for enhancing performance, training, and stress management.

This update [Gold Medal Policing, 2nd edition] evaluates the practicality and operationalized use of the framework and its tools, something many other psychology performance books often lack.

—Reviewer and Police Chief

Source: McDonald, 2025

- 3.7.7 *Diverse audience.*** Summaries in each chapter provide key takeaways for frontline officers, management, and academia, extending the book’s value to law enforcement, students, and government officials interested in risk management and performance excellence. A new chapter, “Police Leadership at All Levels,” captures the pressures and tactics of ‘gold-medal’ leadership for executives and those in the field.
- 3.7.8 *Actionable recommendations.*** The book presents 10 actionable recommendations, including customised recruitment processes, multilevel self-assessment tools, career planning aligned with specialty skills, mental-skills training, and e-learning

expansion, and increased frontline recognition. Future directives include research on AI technologies and continuous improvements in mental readiness and coaching program.

3.7.9 Empowering law enforcement. This second edition focuses on operational readiness, providing evidence-based practices to improve safety, productivity, and morale, along with a comprehensive toolkit for police officers and beyond.

3.8 Practical tools

Practical tools that bridge classroom learning with real-world experience are vital in high-risk fields facing limited resources and time constraints (Das & Waddington, 2020). As Squire Bill Widener advised, “Do what you can, with what you’ve got, where you are” (Theodore Roosevelt Centre, 2023).

Knowledge-exchange tools that address operational challenges, set performance benchmarks, and assess clinical practices are illustrated through examples from dentistry- and social work.

3.8.1 Profile of challenging situations

One such tool is the ‘Profile of Challenging Situations,’ designed to help both trainees and seasoned professionals manage challenges and explore effective strategies. For dentists, this tool categorises daily challenges—clinical complexities, interpersonal dynamics, legal concerns, and business aspects—helping professionals refine skills, consider referrals, and explore mentoring or specialisation opportunities. Adaptable across various professions, this tool supports recruitment, training, curriculum design, and performance evaluation (Figure 3.1).

Profile of Challenging Situations in Dentistry

Knowing your strengths and limitations can boost your self-confidence. Review the list of challenges below identified by seasoned dentists (add to each category as needed). For each challenging situation, decide and mark as follows

- ~~Stroke out~~ if it is not applicable
- Circle if you would find it difficult to handle
- Underline if you generally feel comfortable handling it

This personal profile of challenging situations can assist you in realizing new strategies and refining your existing ones. Some situations may remain a limitation and will require a referral. Situations you feel comfortable and competent in handling may assist you in finding opportunities to mentor others and discovering possible areas for specialization.

Challenging Situations for Dentists
<p>Particular patient behaviour: uneducated individuals · unbelievably picky patient's husband · distracting patient behaviour · dishonesty (e.g., not disclosing high b.p.) · ensure not alone with patient especially male-female · uncomfortable patient · patient who moves in the chair · very poor oral hygiene—not doing their part · cannot afford proper treatment due to low-income—knowing the treatment they can afford is not going to last · undergoing treatment with certain medications (e.g., bisphosphonate causing certain jaw damage) · cancer patients with really damaged white blood cells · patients with angina or cardiac conditions · patient might not tell you everything—not knowing signs versus symptoms · those really afraid of the needle · people with the attitude: <i>"It's my money. I'm paying you so you will do what I want."</i> · people feeling faint from the anesthetic · a high-risk patient is an uncomfortable patient · poor motor skills to perform a hand-skill to clean mouth or just don't have good health · patients who don't want to do anything unless the insurance will pay · patients experiencing homelessness (a love-hate relationship)—people destroy their lives and their teeth on drugs, methyl ice, crack, cocaine · children are definitely one of the hard ones—a crying and kicking child is not necessarily in pain.</p>
<p>Degree of difficulty/risk: extraction of third molars · bone grafts · implants · torn tongue · ankylosed tooth (risk of soldiered to bone) · being tired at end of the day · lawsuits are the number one fear of dentists · relieving pain after the patient leaves · complications · not knowing how to deal with the possible complications for a procedure · a simple ortho (or braces) treatment · possibility of permanent damage to nerves from extractions of impacted molars, root canals (e.g., in a molar) —anything where you might permanently lose the tooth · matching the colour and angulations on two front teeth · suddenly realize the tooth you're working on should've had a root canal · higher the level of dentistry, the more costly the service for the dentist · root canal in a molar · looking for the orifices or the entrances of the canals (especially if they are classified) · getting the right vertical dimensions · countries where there are not enough oral surgeons and taking the roots off becomes your responsibility.</p>
<p>Degree of complexity: minor things are not hard but complex—opening flap, surgical extraction of teeth · mouth full of blood (need to consider if patient is in pain) · handle sutures for closing flap · ensuring no complications · patient has to be careful after freezing · extraction: · suddenly find certain teeth enclosed with bone (often guessing in some countries that do not use x-rays) · endodontics (root-canal treatment): lots of complications because of blockage of canal, internal shape of canal, resorption · sustain proper sterilization practices · equip clinic with update first aid · waste hazard disposal · lack of pharmacological knowledge · full-mouth rehab · surgery · everything is challenging—even the simplest procedures · Not having the person frozen when you're doing a procedure and you start to hurt them · everything is challenging—even the simplest procedures · relieving pain from patients · adding insurance to the equation · asking for money when they are not happy or satisfied</p>
<p>Teaching/managing responsibilities: staff issues (i.e., lateness, illness, computers, staff-client problem) · ensuring proper staff with basic CPR-First Aid · business part (versus just the technique) is huge! · asking for money if client is unhappy · dealing with insurance telling you what to do · having balance in my life.</p>
<p>Special relationship pressures: relatives or a family member ('relativeoma') or friends ('privatitis') · not having patience with kids and paedodontics · by law should not treat partners · multiple relationships to manage (dentist and staff/client/patient) · the private-space thing for some dentists · you start to hurt the patient from not having the person frozen when doing a procedure—I hate hurting people.</p>

Figure 3.1 Profile of Challenging Situations in Dentistry [Source: McDonald & Paganelli, 2021, p. 20]

3.8.2 Operational Readiness Index and performance indicators

In the field, while specialised skills are expected, mental preparedness is equally critical for navigating on-the-job complexities. Assimilating quantitative and qualitative results produces a weighted profile known as the Operational Readiness Index. The Dentistry Operational Readiness Index, developed with 13 performance indicators, includes four technical readiness indicators (31%), three physical readiness indicators (23%), and six mental readiness indicators (46%) (Figure 3.2). The weights, though not always reflected in training, are vital in final clinical assessments where full competencies for performance excellence are demonstrated through core practices (illustrated in Figure 3.2).

Operational Readiness Index and Performance Indicators for Dentistry

Instructions for use: These 13 performance indicators were specifically designed to approximate the ratio of job-specific competencies for dentistry found in this study. That is, in addition to developing the technical (31%) and physical (23%) readiness skills required for operational readiness, the necessary isolation and emphasis are placed on developing mental readiness skills (46%)—that will ultimately make the difference between satisfactory and peak performance. Traditional technical and physical readiness skills are covered by the first seven indicators, and mental readiness skills by the remaining six—which reflects what we now know about the weight of each (see Figure 2).

It is important to understand that performance indicators and practices do not need to be equally reflected in the number of lectures, proportion of training or all supplemental assessments. However, in the final assessment of a “fully functioning dentist,” trainees must demonstrate comprehension and competency (pass/fail) in all physical, technical and mental performance indicators. A “Pass” represents not only what has been studied but how trainees combine this knowledge with their own “soft-skill” ways in performing. This circumvents graduating with the required percentage of knowledge and procedures yet failing without the mental competencies to succeed. While more time will be spent after graduation on honing a specialty, a foundation in mental preparedness will provide the resiliency and sustainability for facing the inherent complexities and difficulties of the job.



Dentistry Operational Readiness Index PERFORMANCE INDICATORS



TECHNICAL (31%)

- Knowledge & Application of Dentistry
- Verbal & Written Communication
- Resource Logistics
- Knowledge of Infrastructure & Patients

PHYSICAL (23%)

- Medical-Physical Self-Care
- Work Health & Safety Techniques
- Equipment & Manual Task Competency

MENTAL (46%)

- Commitment
- Self-Confidence
- Positive Mental Preparation
- Focus
- Distraction Control
- Evaluation and Coping

Figure 3.2 Operational Readiness Performance Indicators for Dentistry [Source: McDonald & Paganelli, 2021, p. 21]

3.8.3 Clinical/Field/Site Training Assessments

The *Clinical/Field/Site Training Assessment* integrates competencies, performance indicators, and practices to develop competent, independently functioning frontline professionals. Instructors set clear expectations for trainees, who must demonstrate proficiency in evidence-based indicators. Trainees actively participate by maintaining daily logs of their performance. Progress reports are completed by both the trainee and instructor (coach or mentor), focusing on comprehension, progress, and full competency. These assessments facilitate self-identification of areas for improvement and career development, while allowing trainees to compare their skills with those deemed “excellent.” The sample ‘Clinical Training Assessment for Dentistry Trainees’ illustrates this process, covering technique, aesthetics, dentist-patient experience, and business skills (Figure 3.3).

Clinical Training Assessment for Dentistry Trainees

Instructions for use: Instructors first familiarize their trainees up front with the expectations of clinical training and the goal of developing the 13 indicators of performance excellence. Consistent with the principles of adult education, trainees are expected to take an active role in their training by maintaining a daily log noting particular instances where they have demonstrated proficiency in the required 13 performance indicators. Clinical training can be divided into roughly three equal stages. At the end of each stage a progress report is completed by the instructor where the trainee is assessed (using the same form three times). The benchmark for the first progress report is the trainee’s understanding of the indicators of performance excellence (comprehension). By the second report, trainees are assessed on their ability to demonstrate a growing competency in the indicators, and by the final report full competence is expected in all 13 indicators. If an instructor identifies a problem at any stage, it is discussed so the trainee can be given the opportunity to improve their performance. To ensure objectivity, instructors should back up their assessment with examples (or lack of examples) from the trainee’s and their daily log.

CLINICAL TRAINING ASSESSMENT for Dentistry Trainees

Progress Report (1 of 3)

Trainee: _____ Instructor/Mentor: _____ Training period dates: _____

Performance Indicators (Outcome)	Practices (that demonstrate outcome)	Daily Examples (Trainee is to assist in providing examples)
Knowledge & Application of Dentistry Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	knows and applies related dentistry education; has acquired expertise (e.g., materials, diagnosis, etc.); knows relevant local, international directives/laws (e.g., Food and Drug Administration, EU Directives); understands treatment and harm reduction; can analyze situations, problem solve and apply proper procedures; knows and applies related business practices; maintains necessary updates	
Verbal & Written Communication Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	is patient-directed; builds rapport, confidentiality; manages expectations; manages patient records (e.g., note taking, consent forms, clinical assessment); clear articulation of procedures; manages software and information technology	
Resource Logistics Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	identifies needs and goals; designs and coordinates patient treatment plan; schedules appointments efficiently; coordinates external services; accesses supplies; gains internal and external support; implements complex tasks; integrates flow of information/tasks; accesses resources and funds	
Knowledge of Infrastructure & Patients Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	knows dental practice or group structure ; knows physical layout of work area; follows local and international directives and procedures; knows and respects patient rights; knows community resources and patient referrals (e.g., hospitals, specialists)	
Medical-Physical Self-Care Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	has physical health and proper ergonomic positioning; manages fatigue (e.g., controls overbooking, takes breaks, proper rest); has control on dependence and addiction; is physically fit for the job (cardio, general stamina); has necessary injury recovery (back, neck, shoulder, etc.); eats and hydrates	
Work Health & Safety Techniques Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	is aware of personal safety (e.g., personal protective equipment, communicable disease awareness, disposal of contaminated objects, universal precautions); assesses environmental risks; ensures team compliance to safety measures	

Trainee: _____ Instructor/Mentor: _____ Progress Report (2 of 3)

Performance Indicators (Outcome)	Practices (that demonstrate outcome)	Examples from Daily Log (Trainee is to assist in providing examples)
Equipment & Manual Task Competency Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	effectively operates tools and instruments for the job (e.g., turbine, ultrasound, etc.); handles physical demands (e.g., correct chair positioning, standing, balancing, holding, controlling noise and vibrations); has equipment dexterity, coordination, accuracy and finesse; handles complex maneuvers and multitasking	
Commitment Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	has compassion to reduce pain; sets high standards; enjoys and is passionate about the work; persists through complexity; has integrity and a sense of responsibility for patients; remains sincere to avoid complaints and lawsuits; creates life-balance	
Self-Confidence Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	gains from past experience and training; assesses and accepts like-minded patients; knows and empowers patients; promotes team pride; refers to specialists; finds support in study groups and mentors; pursues continuous education (near and abroad)	
Positive Mental Preparedness Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	visualizes the final result; draws/rehearses with visual aids; pre-plans the logistics; allows ample time for procedures; has daily preparation rituals; treats patients with an optimistic attitude; develops a positive patient-relationship; explains plan or presents alternatives to waiting patients; prepares for the unexpected	
Focus Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	has total concentration and comfort amidst distractions; communicates non-verbally; stays calm and relaxed; has a patient-centred mind-set; is nice; feels rhythm and flow in the procedure; creates effortless in the practice	
Distraction Control Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	can immediately control excitement; is honest with patients; is willing to apologize, be flexible, redo and/or correct; puts distractions on hold; takes charge and push through; knows when to refer; instills calmness; takes breaks as needed to refocus	
Evaluation and Coping Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	uses self-reflection; sets realistic goals; seeks feedback (e.g., study group, patients, continuing education); recognizes and assesses technological changes; does the best possible; adjusts after an error; copes with unexpected setbacks; practices work-life balance	

Progress Report (3 of 3)
<p>Trainee Comments/Improvement Strategies:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Print name: _____ Signature: _____ Date: _____</p> <p>Instructor/Mentor's Comments/Improvement Strategies:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Print name: _____ Signature: _____ Date: _____</p>

Figure 3.3 Clinical Training Assessment for Dentistry Trainees [Source: McDonald & Paganelli, 2021, p. 22]

The dentistry and homelessness services profiles share comparable weights, so the Site Training Assessment tool maintains consistent proportions. Performance indicators and practices match with those of frontline workers in homelessness services (Figure 3.4).

SITE TRAINING ASSESSMENT for Frontline Workers in Homelessness Services		Progress Report (1 of 3)
Trainee: _____ Coach/Mentor: _____ Training period dates: _____		
Performance Indicators (Outcome)	Practices (that demonstrate outcome)	Daily Examples (Trainee is to assist in providing examples)
Knowledge & Application of Social Services Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	knows and applies social work; has related education and experience (e.g., trauma informed practice, observation skills, concurrent disorder treatment); knows relevant legislation (e.g., Landlord-Tenant Act, Mental Health Act, Child and Family Services Act - Duty to Report); assists client to navigate the system; understands addiction treatment and harm reduction	
Verbal & Written Communication Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	is client-directed (strength-based versus deficiency-based); builds rapport, confidentiality; uses positive affirmations, motivational interviewing; active listening; manages expectations; manages client records (e.g., note taking, consent forms, clinical assessment).	
Resource Logistics Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	identifies needs and goals; can coordinate client care; assists client to schedule appointments and goal activities; designs client service plan; coordinates services; accesses supplies; gains internal and external support	
Knowledge of Agency & Community Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	knows agency structure; knows physical layout of work area, agency, community facility, client's spaces; follows agency policies and procedures; knows external resources (e.g., subsidized housing, foodbanks, drop-ins, shelters, medical clinics); knows and respects client culture	
Medical-Physical Self-Care Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	has physical health and proper vaccinations for the job; manages fatigue (e.g., overnights, 12-hour shifts, designated breaks); is physically fit for the job (cardio, general stamina); eats and hydrates	
Work Health & Safety Techniques Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent	Is aware of personal safety (e.g., personal protective equipment; communicable disease awareness, disposal of contaminated objects, universal precautions); assesses environmental risks; applies non-violent crises intervention—de-escalation techniques	

Trainee: _____		Coach/Mentor: _____		Progress Report (2 of 3)	
Performance Indicators (Outcome)		Practices (that demonstrate outcome)		Examples from Daily Log (Trainee is to assist in providing examples)	
Equipment & Manual Task Competency Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		safely operates vehicle or rides bus with clients to appointments; supports activities of daily living (e.g., shopping, paying bills, budgeting, cleaning); effectively operates tools for the job (e.g., cellphone, computer, IT); safely distributes harm reduction supplies			
Commitment Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		has a sense of responsibility to do 'the right thing'; genuinely cares and has empathy for clients; finds solutions, asks the right questions to the right people; enjoys the challenge and is passionate about the work			
Self-Confidence Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		has no or low expectations for success or failure; is optimistic to empower clients; shows camaraderie to work as a team; relies on past experience and training; prepares to offer options and bring forward solutions not problems			
Positive Mental Preparedness Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		thinks positively for a psyched mindset; uses visualization to rehearse; knows clients; anticipates obstacles; pauses first then responds; checks-in with peers; creates rituals and self-care habits; recalls past experience; sets clear objectives with a 'Plan B'; uses outside services			
Focus Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		has total concentration amidst distractions; communicates and actively listens; observes the environment; takes breaks as needed; has techniques to stay calm; checks in for team support and feedback; observes body language			
Distraction Control Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		can control a crisis, lulls and general interruptions; can refocus and keep track of what client is saying; shifts perspectives and takes control as needed; knows when to seek support; instills calmness; takes breaks or uses self-talk to refocus			
Evaluation and Coping Y N <input type="checkbox"/> <input type="checkbox"/> Comprehension <input type="checkbox"/> <input type="checkbox"/> Progressing competency <input type="checkbox"/> <input type="checkbox"/> Competent		uses self-reflection; measures goals or access to resources; seeks client feedback; debriefs with peers and/or supervisor; has grounding techniques; recognizes work-life balance; understands compassion fatigue and workplace mental-health practices			

Figure 3.4 Site Training Assessment for Frontline Workers in Homelessness Services [Source: McDonald & Hale, 2022, pp. 58-60]

These examples from dentistry and homelessness services highlight evidence-based tools designed to augment competencies in high-risk occupations, with a “Police Field Training Assessment” also available (McDonald, 2025, pp. 565-568).

3.9 Conclusions

This cross-disciplinary analysis reaffirms the importance of preparedness, noting that each profession prioritises physical, technical, and mental readiness differently. Mental readiness is significant, varying from 37% for high-altitude Sherpa guides to 49% for dentists in achieving peak performance. The investigative process demonstrates its generalisability across diverse fields, addressing needs from economic sustainability to mental health. Contributions from frontline experts have refined competencies, leading to a comprehensive Operational Readiness Framework. This bottom-up approach adheres to rigorous standards, producing practical tools for training, curriculum design, and assessments based on evidence-based best practices. Furthermore, interprofessional

collaboration, as exemplified by street medicine teams, is increasingly vital in enhancing operational effectiveness.

3.10 Reflections

The text box below contains my personal reflections on this chronological review of the publication portfolio. Chapter 4 follows with a critical appraisal of all six publications, analysing, synthesising and integrating the findings.

Reflecting on these publications highlights the need for collaboration with regulatory organisations to achieve shared goals. Tackling systemic issues like homelessness requires teamwork among municipal leaders, interdisciplinary teams, and frontline workers. This collaboration helped to combat burnout and enhance community support. As an outsider, I avoided presuming an understanding of the nuanced challenges faced, whether in dentistry—where artistry, ergonomic injuries, patient behaviours, and political directives play a role—or in other fields under investigation. Non-physical and non-technical performance indicators, such as composure, maturity, and ethical conduct, often dominate selection criteria and are viewed as challenging to train. Chronologically reviewing these publications shows how adapting and integrating research advancements shaped the Operational Readiness Framework.

Chapter 4

Critical Appraisal: Analysis, Synthesis and Integration

This chapter critically appraises six publications (five journal articles and one book) using a four-tiered appraisal approach (Figure 4.1):

- ♦ Pre-analysis of individual studies and interpretation of mixed methods results
- ♦ First-level analysis with the Critical Appraisal Skills Programme (CASP)
- ♦ Second-level synthesis with template analysis
- ♦ Third-level integration using immersion-crystallisation

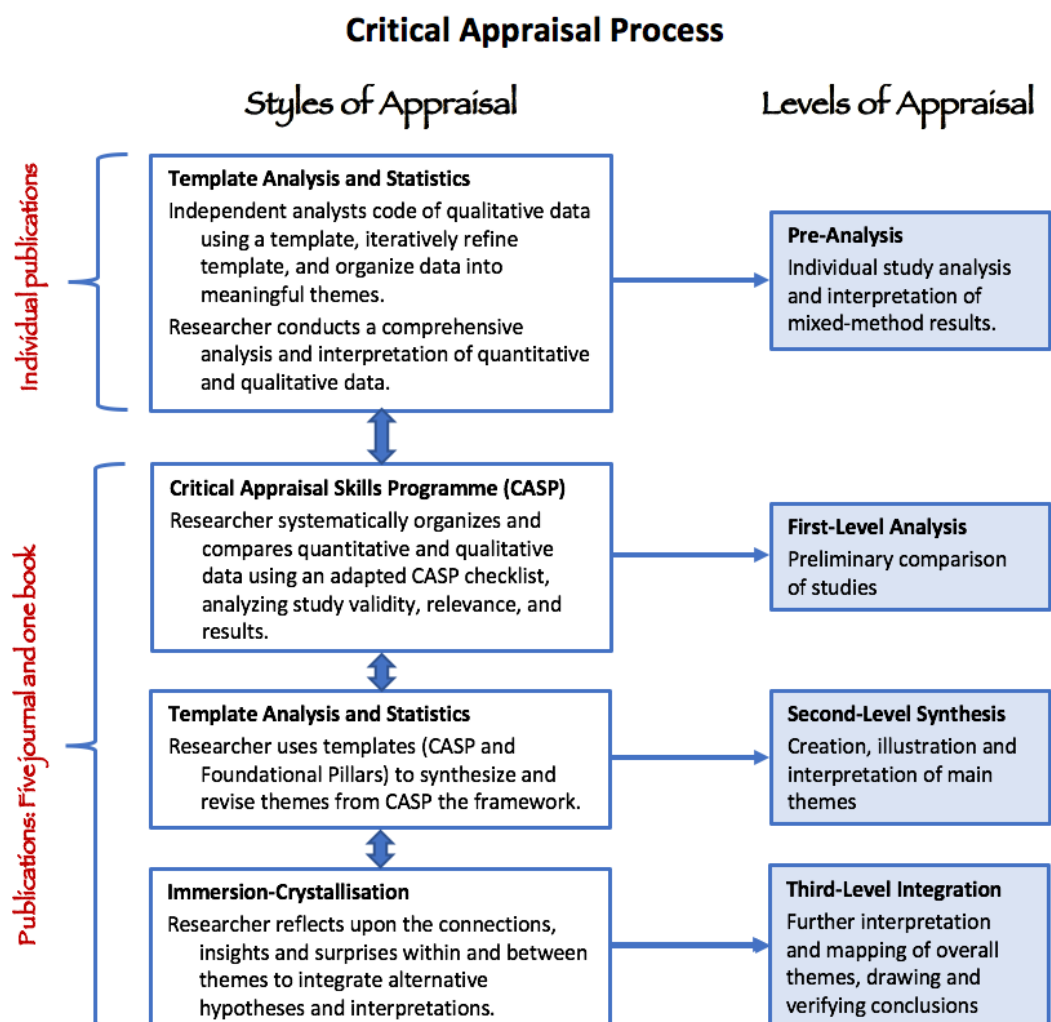


Figure 4.1 Framework for analysing, synthesising and integrating qualitative and quantitative data across six publications [Adapted from Waddington, 2012, p. 140]

Publications were systematically compared using a CASP checklist, merging its framework with the foundational pillars—Performance Excellence, Preparedness, and Profession Specificity—to synthesise key themes. An immersive, non-linear process ‘crystallised’ insights and conceptual advancements, adding further rigor and transparency while highlighting differences and similarities among professions. These ranged from cultural relevance, risk-management, common frontline issues to dominant competencies. Practical tools emphasise profession specificity and potential interprofessional adaptation. Integrated analysis reveals cross-cutting issues, teasing out themes and uncovering conclusions not apparent when examining a single profession.

4.1 Critical appraisal tools

Three key resources—CASP, template analysis, and immersion-crystallisation—shaped this systematic critique of this mixed-methods research portfolio.

4.1.1 Critical Appraisal Skills Programme (CASP)

CASP was chosen for its rigorous, organised approach to evaluate research evidence. It aligns with evidence-based values and improves practices through standardised, rather than anecdotal, information. This ensures informed, transparent, and accountable decision-making, important for health and safety services. CASP integrates seamlessly with frameworks such as Orlick’s Wheel of Excellence, enhancing effectiveness.

CASP involves developing appraisal criteria to critique credible data sources using tailored checklists (CASP, 2023). CASP focuses on three main questions:

- ♦ Are the study results valid?
- ♦ What are the study findings?
- ♦ Will the study findings be applicable in a local context?

Quality appraisal in healthcare policy analysis and evidence-based medicine relies on CASP standards to discern quality, key for informed decision-making.

Long et al. (2020) suggests modifications are needed for CASP’s application in qualitative evidence, especially for synthesising complex publications covering diverse perspectives. This commentary follows the three main CASP questions to systematically appraise the

Validity of Results, Findings, and Application of Findings (Singh, 2013) in relation to the operational readiness of six high-risk professions. Validation of Results span profession positioning, literature review, pilot phase, and methodology. Findings are divided into quantitative and qualitative results. Application of Findings examines practical recommendations and next steps.

4.1.2 Template analysis and immersion-crystallisation

Template analysis, again chosen for its flexibility and pragmatism for multi-study analysis (Brooks et al., 2015), incorporates cross-cutting perspectives from psychology and risk management, yielding new insights into performance excellence.

Immersion-crystallisation ensures coherent insights by mapping main themes, refining interpretations, and repeatedly reviewing and reflecting on data within the adapted CASP framework (Borkan, 2022).

Further details on template analysis and immersion-crystallisation are provided in Chapter 2 and Appendix D.

4.2 Critical Appraisal Skills Programme (CASP) framework

Table 4.1 provides a systematic method for evaluating and synthesising research evidence. CASP provides a foundation for analysing, synthesising and interpreting data on operational readiness in high-risk professions (CASP, 2023).

Table 4.1 Comparison of Validity of Results, Findings and Application of Findings in Operational Readiness for Six High-Risk Professions

Critical Analysis of Operational Readiness for High-Risk Professions (1 of 3)								
Validation of Results				Findings			Application of Findings	
Will the study findings be applicable in a local context?		What shapes research methods? Why and how was it done?		Are the study results valid? What are the study findings?			What the research brings forward?	
Professional Positioning: Agenda, Champion and Sponsors	Literature Review	Pilot Phase	Methodology	Quantitative (%):			Qualitative: Insights and Generated Themes	Recommendations and Next Steps
				Physical (P)	Technical (T)	Mental (M)		
HIGH-ALTITUDE SHERPA GUIDES								
Subject: High-altitude guiding Agenda: Economic sustainability Champions: Two association presidents Sponsors: Canada Foundation for Nepal & International Union for Conservation of Nature, Nepal Country Office (IUCN Nepal)	<ul style="list-style-type: none"> Himalayas mountaineering Nepal economic status Sherpa leaders Tourism safety National economic sustainability 	<ul style="list-style-type: none"> 13-day trek to Everest Base Camp (17,598ft/ 5,364m) Two Nepal homestays Consultations with the Open University of Nepal Initiative Steering Committee Presentation at the Open University of Nepal Initiative Forum 	<ul style="list-style-type: none"> Multiple approaches to maximize 40 days in Nepal—two visits over two years Input from 54 participants: Workshop (32), Focus Group (8), Stakeholder Meetings (11), and Sherpa Guide interviews (3) Descriptive statistics (mean, standard deviation) Template analysis 	33	30	37	<ul style="list-style-type: none"> Respect for cultural immersions for localization and acclimatization Categorization of risk levels, challenges, success and disappointment Uniquely ‘balanced’ readiness profile Physical and technical safety links—need to assess beyond mental Importance of stakeholder buy-in and collaboration 	<ul style="list-style-type: none"> Address emerging “Watch Items:” unprepared tourists, environmental impact, female-guiding trend, generational gaps, and family impacts Create multi-level mental-readiness training Conduct additional readiness research with Sherpa guides Establish performance link to socio-economics Distributed publication with discussion to all stakeholders. Produced new paper adapting Sherpa practices for adventure tourist preparedness (McDonald et al., 2023)
GLOBAL HEALTH RESEARCHERS								
<ul style="list-style-type: none"> Agenda: Deployment preparedness and core competencies Champion: Professor & Director Sponsors: McGill University, and Regroupement Stratégique–Santé Mondiale du Réseau de recherche en santé des populations du Québec 	<ul style="list-style-type: none"> Governing body goals—capacity, ethics, equitable, and decisions Students overseas experience Ethics for research abroad—collaborate and respectful 	<ul style="list-style-type: none"> Briefings on neglected tropical diseases Case study quizzes Global-health conference 	<ul style="list-style-type: none"> Case studies with 259 experienced global-health researchers Biostatistical positioning (purposeful sampling) Descriptive and template analysis 	18	42	40	<ul style="list-style-type: none"> Community trust and respect Alignment with influential governing bodies Link to competencies and risk-management 	<ul style="list-style-type: none"> Design a core competency assessment Conduct a gap analysis Establish a “Code of Conduct” linked to national and global policy guidelines Unexpected parallel to WHO competencies (WHO, 2021) Invited guest lecturer for epidemiology courses (McDonald, J. (2008-2023; 2021-2023, 2023-24). Invited instructor to Red Cross Retreat (McDonald, 2017)

Critical Analysis of Operational Readiness for High-Risk Professions (2 of 3)										
Validation of Results				Findings			Application of Findings			
<i>Will the study findings be applicable in a local context?</i>		<i>What shapes research methods? Why and how was it done?</i>		<i>Are the study results valid? What are the study findings?</i>			<i>What the research brings forward?</i>			
Professional Positioning: Agenda, Champion and Sponsors	Literature Review	Pilot Phase	Methodology	Quantitative (%): Physical (P) Technical (T) Mental (M)			Qualitative: Insights and Generated Themes	Recommendations and Next Steps		
				P	T	M				
SOCIAL WORKERS IN HOMELESSNESS SERVICES										
<p>Agenda: Training gaps and reduction of burnout</p> <p>Champion: Program Coordinator for Community Capacity Building Training</p> <p>Sponsor: City of Ottawa, and Employment and Social Development Canada</p>	<ul style="list-style-type: none"> • Street medicine, interprofessional collaboration • Homelessness statistics • Indigenous vulnerable population • Frontline worker (FWHS) burnout 	<ul style="list-style-type: none"> • 7 facility tours of housing shelters • 21 interviews with frontline workers • 121 completed online surveys 	<ul style="list-style-type: none"> • 35 "excellent" FWHSs' guided questionnaires • Collaborative interview approach with subjects due to limited resources • Quantitative measures of overall operational readiness • Qualitative measures using template and descriptive analysis, and classification • Two focus groups (6 FWHSs and 7 managers) • Full FWHS Operational Readiness profile 	24	29	47	<ul style="list-style-type: none"> • Categorization and importance of Challenging Situations • Distribution of practices within Performance Indicators (PI) • Consistency of PI practices • Classification of PI practices • Occupational functionalities as a template for physical and technical readiness • Unique FWHS profile • Customized training tool from police tool 	<ul style="list-style-type: none"> • Revise recruitment and hiring core competencies • Offer systematic frontline and supervisory training on evidence-based benchmarks • Address burnout screening and preparedness • Endorse tools for support and training • Study inter-professional interplay within homelessness services. <p>-----</p> <ul style="list-style-type: none"> • Gap analysis for frontline training • Addition of six (6) new City courses from identified gaps • Online Sharing Circle workshop • New paper on evidence-based practices in homelessness services (McDonald et al., 2024) 		
NEUROSURGEONS										
<p>Agenda: Focus in the operating room (OR)</p> <p>Champion: Neurosurgeon and President SBNP</p> <p>Sponsor: Brazilian Pediatric Neurosurgery Society (SBNP)</p>	<ul style="list-style-type: none"> • Human performance research • Mindfulness • Past mental readiness research in other professions 	<ul style="list-style-type: none"> • Two decades of teaching/ consulting with residents and surgeons • Workshop titled "Mental readiness and pediatric neurosurgery" 	<ul style="list-style-type: none"> • Response to "Full Focus" questions as a guest lecturer • Database search and literature review • Inter-professional application of evidence-based practices 	10	41	49	<ul style="list-style-type: none"> • Responsiveness to audience (i.e., focus) • Consolidation of one performance indicator • Articulated total concentration, emotional control, positivity and mindfulness in surgery. 	<ul style="list-style-type: none"> • Implement cross-disciplinary practices to improve focus in the OR <p>-----</p> <ul style="list-style-type: none"> • Invited instructor for residency workshops (McDonald, 2020, 2025) • Began collaborative research on neurosurgeon mental readiness in Latin America 		

Critical Analysis of Operational Readiness for High-Risk Professions (3 of 3)										
Validation of Results				Findings			Application of Findings			
<i>Will the study findings be applicable in a local context?</i>		<i>What shapes research methods? Why and how was it done?</i>		<i>Are the study results valid? What are the study findings?</i>			<i>What the research brings forward?</i>			
Professional Positioning: Agenda, Champion and Sponsors	Literature Review	Pilot Phase	Methodology	Quantitative (%):			Qualitative: Insights and Generated Themes	Recommendations and Next Steps		
				Physical (P)	Technical (T)	Mental (M)				
DENTISTS										
<ul style="list-style-type: none"> Agenda: Inter-professional practice and curriculum update Champion: Dean Sponsor: Brescia School of Dentistry 	<ul style="list-style-type: none"> Progress in oral health Inter-professional practices Shift to primary healthcare teams Dentistry core competencies 	<ul style="list-style-type: none"> Supervision of two former dentist Master's students in Public Health 2018 International Association for Dentistry Research (IADR) poster presentation Brescia School of Dentistry, IT Dean of Dentistry consultation 	<ul style="list-style-type: none"> Case studies from four in-depth dentist interviews Quantitative operational readiness measures Qualitative measures using template and descriptive analysis, and classification Inter-professional comparisons Impact statements from stakeholders 	23	28	49	<ul style="list-style-type: none"> Detailed and categorized job-specific challenges Significance of mental-readiness competencies Tools for training specialization, career development, and clinical assessment Inter-professional preparedness practices Consistent nomenclature 	<ul style="list-style-type: none"> Conduct comprehensive study on dentist operational readiness Update dentistry curriculum with mental-readiness competencies Seek inter-professional training opportunities to prepare for pending WHO new primary-care directive Test operational readiness tools <p>-----</p> <ul style="list-style-type: none"> Invited lecturer, European dentistry retreat (McDonald, 2022) Facilitator, Integration of AI into Clinical Assessment (McDonald, 2024) Invited editor for IJERPH 		
POLICE										
<ul style="list-style-type: none"> Agenda: Update evidence-based practices with coach officers' perspective Champions: Police College Director, Police Chief, University Professors, Sr. Editor Sponsors: Ottawa Police Service, Ontario Police College, University of Ottawa, Routledge Publishers 	<ul style="list-style-type: none"> Current research review for 2nd ed. Police performance evaluation Police stressors Critique of Road to Mental Readiness (R2MR) Physical, technical and mental readiness in policing 	<ul style="list-style-type: none"> Co-chair, Provincial Coach Officer Advisory Committee 15 years of teaching and consulting in policing. 	<ul style="list-style-type: none"> Weighted merged data from 48 officers and 33 coach officers Consistent tiered terminology Operational Readiness Framework Statistical advancement with influential factors and temporal data Longitudinal temporal changes 	26	31	43	<ul style="list-style-type: none"> Full research review Conceptualized Police Operational Readiness Framework and Index Tools defining physical, technical and mental performance indicators for training and assessments. Redefined performance blocks Leadership profile Temporal changes 	<ul style="list-style-type: none"> Custom recruitment and retention processes. Implement ready-to-use tools Enhance overall training, e-learning and mentoring Promote frontline and coach officer recognition. Address emerging trends. <p>-----</p> <ul style="list-style-type: none"> Book launch at international conferences through Routledge and various police leaders. Invited speaker at international Chief of Police conferences. 		

4.3 Validation of Results

Validation covers professional positioning, literature reviews, pilot phases, and methodologies, ensuring comprehensive evaluation of research outcomes.

4.3.1 Professional positioning

The portfolio examines elite professionals in diverse high-risk occupations, addressing agendas ranging from economic sustainability, burnout, vigilance to court-defensible results. Prominent leaders ('Champions') ensured research goals were met by facilitating funding, access to secure areas, and personnel.

4.3.2 Literature reviews

Profession-specific literature reviews informed frontline preparedness and performance excellence, comparing research findings, and identifying knowledge gaps and research directions. For instance, the dentistry reviews tackled challenges posed by the WHO's standardised healthcare teams, 'Fundamentals of Care' policy, and student feedback (FDI World Dental Federation, 2015). Methodologies like problem-based learning and key documents like the 'La Cascada Declaration' (Cohen et al., 2017) were evaluated to inform a pilot study on mental readiness in dentistry within an interprofessional context.

4.3.3 Pilot phase

According to Majid et al. (2017), the pilot phase helps refine studies by evaluating the feasibility, clarity, and appropriateness of data collection instruments while addressing logistical challenges. For the six studies, clear frontline definitions like "excellent" frontline personnel were established to modify the 'Surgeon Interview Guide' (McDonald, 1992), initially adapted from the 'Athlete Interview Guide.' Participant selection involved confidential referrals from peers and supervisors. Building trust and understanding internal dynamics were vital for honest responses.

As the principal investigator, undergoing extensive orientation—such as high-altitude treks, full-shift ride-alongs, homeless shelter activities, and surgical procedures—ensured the relevance and credibility of the research. Learning acronyms and frequently used

jargon often provided profound cultural insights, later used in training workshops (see Appendix F related frontline workers' jargon in homelessness services).

4.3.4 Methodology

The methodology employed diverse data collection methods, including in-depth interviews and focus groups, with sample sizes ranging from four to 259.

- ♦ **Sample sizes.** Participants included four dentists, 35 frontline workers in homelessness services, 54 high-altitude Sherpa guiding experts, 81 police officers and 259 experienced global-health researchers.
- ♦ **Data collection.** Methods included in-depth interviews, guided questionnaires, focus groups, stakeholder meetings, and scoping reviews. Fieldwork abroad was optimised by including meeting with high-ranking officials, conducting workshops, and attending forums. Temporal data and specialised quotes from past research were consolidated. Physical and technical descriptors were refined with subject-matter expert input (e.g., “Physically Healthy” was adapted to “Use of Force” for police and “Medical-Physical Self-Care” for social workers, with criteria such as vaccines and local diet and water for researchers abroad).
- ♦ **Data analysis.** Quantitative measures assessed operational readiness; qualitative measures used template analysis to identify evidence of Orlick's success elements. For example, Sherpa guides' commitment arises from the profound responsibility felt when someone dies in their arms, while self-belief/confidence is influenced by the natural beauty, the humble, kind Nepali nature, and the fame of Sherpa climbers.

Template analysis organised data with predefined codes, aiding in risk management considerations. Data saturation led to theme isolation (e.g., commitment and confidence) and performing descriptive statistics, with classifications for practices (core, enhanced, elective) and performance blocks/stressors (immediate need, serious, individual). Statistical analysis of temporal data captured policing changes. Impact statements were collected for the dentistry study (McDonald & Paganelli, 2021) and replicated for a subsequent mountaineering tourist preparedness study (McDonald et al., 2023).

4.4 Findings

This appraisal of my portfolio and new insights are framed within the three foundational pillars—Performance Excellence, Preparedness, and Professional Specificity.

4.4.1 Performance excellence

Performance excellence emphasises cultural relevance through frontline insider perspectives and cultural influences, the benefits of categorising frontline challenges for risk management, and the importance of physical, technical, and mental readiness.

Cultural relevance

Georg Simmel’s seminal work (Karakayali, 2003; Simmel, 1971, 2011) remains pivotal in describing how the insider/outsider researcher dynamic influences group dynamics and access to knowledge. *Insiders* rely on shared internal experiences, emphasizing subjective, contextual aspects (emic approach), while *outsiders* bring external objectivity and neutrality through detached, measurable perspectives (etic approach). Researchers contribute through community studies (Wright et al., 2020), and collaboration between the two can integrate and synergize diverse views for new knowledge generation (Merton, 1972). Kerstetter (2012) advises outsiders to understand cultural language and values, bring objective analysis, and engage communities in shaping research design to build trust and relevance. Wigginton and Setchell (2016) recommend reflection, avoiding stereotypes, using flexible recruitment, and empowering participants. These approaches underscore the value of avoiding oversimplification and the need to respect cultural contexts, including immersive experiences and cultural methodologies, when studying high-risk professions.

Inner-circle culture. Being an ‘outsider’ can reduce bias, as objective observation and active listening can help maintain impartiality while fostering an understanding of cultural nuances. Activities like shadowing allow researchers to grasp insider perspectives without assuming membership within the ‘inner circle.’ Trust and credibility are earned through ethical conduct and cultural sensitivity, demonstrated by consulting experts before engaging in specialised environments, like understanding “clean” and “sterile” areas in neurosurgery or exercising discretion in police ride-alongs. The line between being accepted and trusted or not is easily drawn, whether with senior management or frontline personnel.

Cultural experiences abroad. Research with Sherpa guides in Nepal exemplified integrating into local culture through lived experiences. Pre-deployment Nepali briefings and homestays proved invaluable before commencing research. Similarly, global-health research emphasised respecting local customs, vaccinations, and local community support to secure infrastructure and funding.

Culture-inspired methodologies. Engagement with Indigenous communities—First Nations, Inuit, and Metis—introduced concepts in interconnectedness like “Two-Eyed Seeing” and the “Sharing Circle” (Bartlett et al., 2012). These ideas inspired guided co-worker interviews and led to an online “Sharing Circle” workshop.

Categorisation of challenging operational situations

Research start-up examined whether excellence is essential in professions, and if so, what scenarios are equivalent to the Olympics? The categorisation of demanding operational situations originated from the initial surgeon study (McDonald et al., 1995), and was replicated in police research (McDonald, 2006), and subsequent studies. Categories included heightened-risk, high-risk/difficult individuals, complex situations, leadership roles, unfamiliar or unprecedented events, and emotionally-charged scenarios. In risk-science, an “All Hazards Framework” helped analyse potential threats across disciplines, prompting actionable risk assessments (Ayyub et al., 2007).

A refined tool for dentistry, adaptable for other professions, was developed to manage challenges situations, guiding both residents and seasoned dentists (Figure 3.1). Some situations may require additional training or referral, while others suggest mentoring or specialisation opportunities.

Using innovative methods to capture profession-specific challenges with tailored vocabulary and examples supports risk management principles (Bhuller & Trevithick-Sutton, 2024; Krewski et al., 2022b). By translating Orlick’s model for high-risk professions, this research adapts Olympic success elements into occupational ‘winning’ practices, aligning with agendas like safety, wellness, equity, and economics. This further aligns with professional agendas like safety, wellness, equity, and economics, making frontline readiness for performance excellence an organisation’s first line of defense.

Importance of readiness

How important is physical, technical and mental readiness in achieving performance excellence? In high-risk, high-performance professions, physical and technical readiness practices are typically well-defined and evaluated, while mental readiness practices may exist, they require further definition and emphasis. Frontline workers in homelessness services (FWHSs) reflected on the balance and interdependence of these abilities for effective service delivery (McDonald & Hale, 2022).

Quick, calm—*Readiness in homelessness services means being able to think quick on your feet, change tasks quickly and stay calm when the situation or those around you are panicked. It's being able to go from 0 to 100 and back to 0 at any moment.*

—Frontline worker in homelessness services

Self-care, mindful—*Readiness is adequate sleep and self-management skills to have your own sh-t together. Ready means having a mindful approach to each situation and crisis with appropriate technical skills with adequate trust in your abilities and your co-workers!!!*

—Frontline worker in homelessness services

Out of comfort zone—*Be ready to listen effectively and take the small victories as they come. Take on challenges, new experiences, push yourself out of your comfort zone to work hard in the best interest of the client. At times I push the limits, standing with one foot over the line.*

—Frontline worker in homelessness services

Source: McDonald & Hale, 2022, p.10

The relative importance of physical, technical, and mental readiness for success in challenging scenarios was compared across the six studied populations and Olympians in an interprofessional analysis (Table 4.2). Mental readiness was rated highest (37% or more) in all groups except for health researchers. Technical readiness was second, except for Olympians and health researchers. Surgeons had the highest technical score (41%), while Olympians scored lowest (20%). Physical readiness was ranked highest by Olympians (38%), followed by police and Sherpa guides (28% each), with surgeons scoring lowest (10%). Sherpas showed the most balanced profile, which drew attention to the need to detail and interconnect physical and technical readiness. Surgeons and global

health researchers prioritise technical and mental competencies perhaps due to the high stakes involved in complex problem-solving, research-based medical practices, and ethical standards.

Table 4.2 Interprofessional comparison of readiness competencies

Readiness Competencies	Olympians	Sherpa Guides	Health Researchers	Social Workers	Dentists	Surgeons	Police
Physical	38%	33%	18%	24%	23%	10%	28%
Technical	20%	30%	42%	29%	28%	41%	32%
Mental	42%	37%	40%	47%	49%	49%	40%

Note: On a scale where readiness competencies total 100%.

These distinctions within and between professions emphasise the need for flexible approaches in recruitment, curriculum design, training, and assessment tools to meet each profession's unique demands.

4.4.2 Preparedness

Preparedness examines the impact of frontline human factors on individual and community stress and wellbeing, and dominant patterns across professions. A hierarchy of evidence-based measures organises core practices from “excellent” frontline individuals.

High-performance stress, health and wellbeing

Studies confirm that high-risk professions share common challenges affecting personal safety, productivity, and wellbeing, including resources constraints, elevated stress and fatigue, feelings of being misunderstood, human resource strains, performance inconsistencies, and gaps in knowledge transfer (Charman, 2017; McDonald, 2006).

Understanding human factors in emergencies is central for skill development, significantly impacting community wellbeing (Owen, 2014). Evidence-based practices could greatly enhance policing effectiveness (Sherman, 2013), akin to medicine—a sentiment echoed on the frontline.

Lives at risk—*In policing, you have to fine tune your skills and lives hang in the balance... Policing like a lot of the high skill jobs, like surgery, requires precision. We do it with words or a gun opposed to a scalpel.*

—Female officer

Source: McDonald, 2025, p.3

Preparedness is vital in high-performance professions, where failure can lead to illness, death, financial loss, embarrassment, and public safety risks (Picano et al., 2002). Although distinct from world-class sports, these professions demand dedication, discipline, and a commitment to exceptional outcomes (Sarkar & Fletcher, 2014). Like athletes, professionals must peak under pressure, take responsibility, work within tight schedules, possess specialised skills, and maintain composure.

Despite burnout, professionals like physicians and police often resist traditional stress management and wellbeing interventions aimed at building their resilience (Harkness et al., 2005; LaDonna et al., 2022). A more flexible method is needed to improve performance in high-pressure situations, one that reflects real-world complexity and addresses control challenges and imperfect evidence (Cox et al., 2007).

For instance, a doctor recently sought advice on readiness and performance, deliberately separating it from stress management [School of Epidemiology and Public Health (SEPH), 2023]. He inquired:

Do you have any tips for peak performance in emergency medicine? I handle stress well and simply want to stay on top of my performance.

—Emergency Physician and Assistant Professor

Source: SEPH, 2023

This suggests that framing mental readiness as part of performance optimisation, rather than stress relief, can better engage professionals in these important conversations.

Dominance of mental readiness

Mental readiness is a major contributor in peak performance across professions (Figure 4.2), ranging from 37% for Sherpa guides to 49% for dentists and surgeons (Table 4.2). This underscores the significance of a strong mindset in managing pressures, whether in high-risk professions or elite sports. The quantifiable impact of mental readiness supports the need for further assessment of its role within each profession.

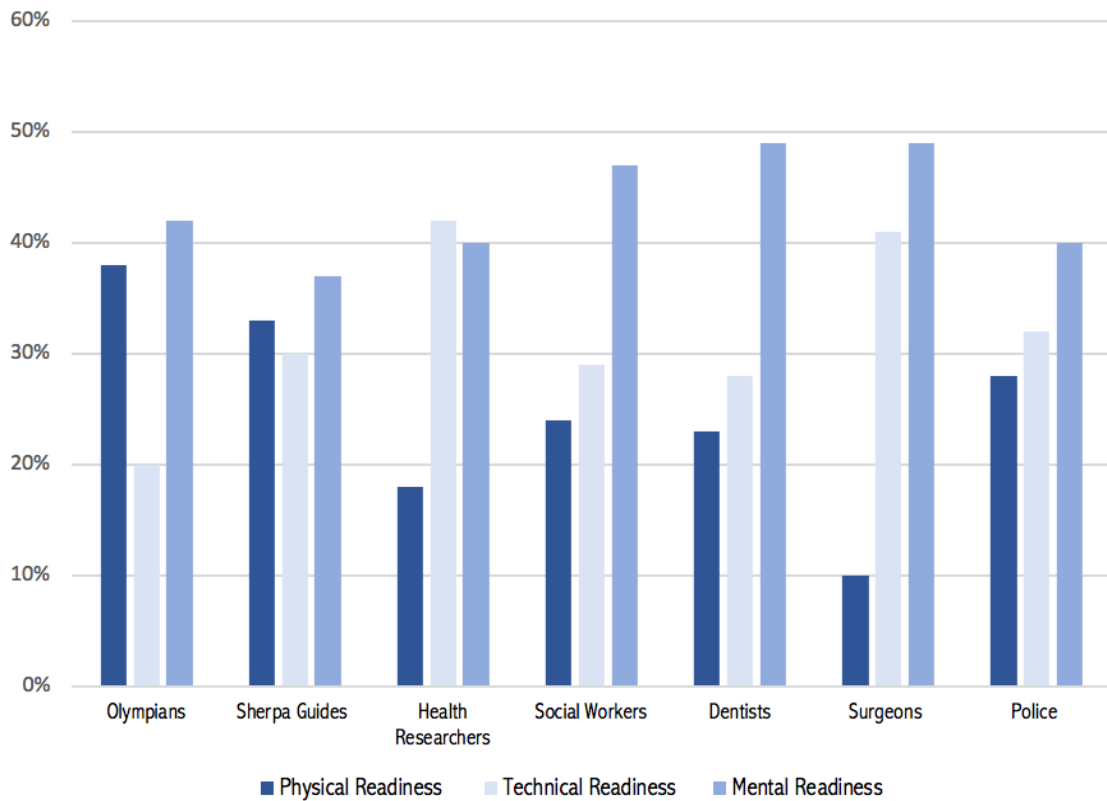


Figure 4.2 Interprofessional comparison of the relative importance of physical, technical and mental readiness for performance excellence

Confidence varies across professions, as illustrated in Figure 4.3. Global health researchers and police rely on situational control, credibility, and assessing strengths and biases. In contrast, rather than controlling situations, social workers focus on optimism, past experience, and meeting clients ‘where they are at,’ with lower expectations. Despite these differences, social work and global health value creative preparation of options. All three professions highlight the importance of camaraderie and teamwork in building confidence. While confidence manifests through control in global health and police, and adaptability in social work, yet preparation and teamwork are universally critical. These insights reveal how tailored practices and shared values enhance professional confidence and wellbeing, regardless of context.

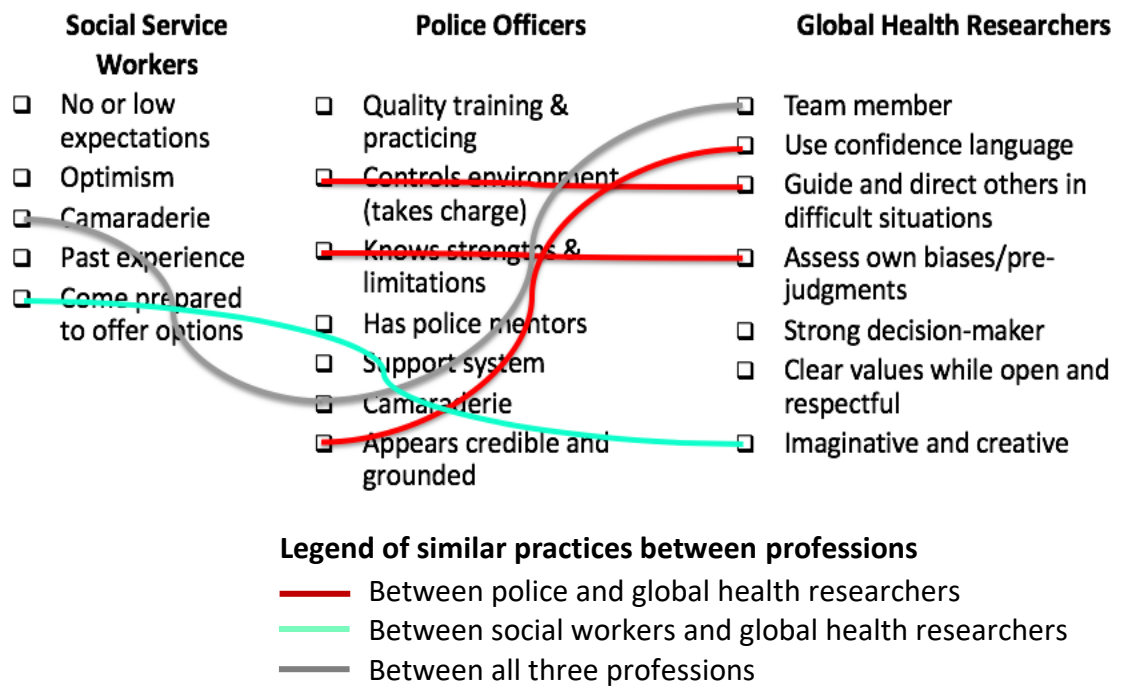


Figure 4.3 Confidence Practices: Interprofessional Comparison

Hierarchy of evidence-based preparedness measures

A hierarchy of terms establishes simple, measurable competencies, derived from bottom-up practices, for achieving performance excellence. Competencies are weighted and defined by Performance Indicators, which are further clarified by core practices illustrated through direct quotes from exceptional frontline personnel.

Competencies across high-performance professions—physical, technical, and mental readiness—are customised to each occupation. Purposive sampling of high performers, recalling their successful performances, distinguishes the *best* practices from the *rest*.

Performance indicators vary across occupations in distribution and consistency. For instance, 35 “exceptional” FWHSs reported 44 different mental practices, with mental preparation and distraction control contributing the most (10 practices each, 23%), while positive imagery had the fewest (2 practices, 5%). On average, FWHSs used 20 out of the 44 practices, indicating diverse approaches. Commitment was the most consistent practice (75% or 3 out of 4 practices per FWHS), while full focus was least consistent (28% or 2 out of 7).

Practices. Although performance indicators may be common across professions, their application and timing vary significantly, requiring a customised blend of core and individualised practices. For example, in visualisation rituals: FWHSs use mental cues like

“don’t talk too much” or “do [this] with this client;” surgeons transform anatomical drawings into intricate 3D images; police officers rely on image recall during debriefs and court preparation; and global-health academics strategise visual representations of research. These idiosyncrasies highlight the need for customised visualisation practices.

Direct quotes provide real-world, evidence-based, peer-to-peer insights. For example, three police officers articulated distinct approaches to building confidence by maintaining a polished appearance, treating routine tasks as critical, and balancing monotony with being proactive.

Appearance, confidence—*I made sure my boots were shined and my appearance was good—I felt comfortable. Once my appearance is up to a good standard, then I feel confident. Not overconfident, but confident.*

—Police, over 15 years on, p. 234

Reality, boring, monotonous—*It’s monotonous work at times. Pushing a police car is pretty boring, until something happens. You can make it as exciting as you want to—you can stop every car that ever drove through your area. Or you can choose to do nothing. For the most part it’s fairly monotonous.*

—Tactical officer, p. 239

Vigilance—*I believe and treat every situation as if there is a knife on the front seat of the car or a bad guy waiting with a two-by-four around the corner of the building. It’s not just an alarm, it’s my life or the life of the officer behind me. It’s the life of the citizen down the street. It’s not a matter of pumping yourself up.*

—Police, 5 to 10 years on, p. 237

Source: McDonald, 2025

These findings suggest that recruitment should emphasise mental-readiness practices valued across professions, especially those difficult to train, by focusing on competencies common among “exceptional” individuals.

4.4.3 Profession specificity

Profession specificity compares Operational Readiness Indices across professions to guide customised interprofessional preparedness tools for training. Risk management insights enhance holistic thinking for evidence-based decision-making.

Operational Readiness Index comparisons

The radar diagram in Figure 4.4 visually compares the distribution of mental, technical, and physical readiness across professions. Sherpa guides show the most balanced readiness, while surgeons exhibit the widest variation of data points. Contrary to expectations, surgeons and dentists differ significantly, whereas dentists and social workers are surprisingly similar. A dentist explained this by noting that, unlike surgeons, dentists work with conscious patients, focusing on alleviating anxiety and empowering them—skills also relevant in psychosocial services.

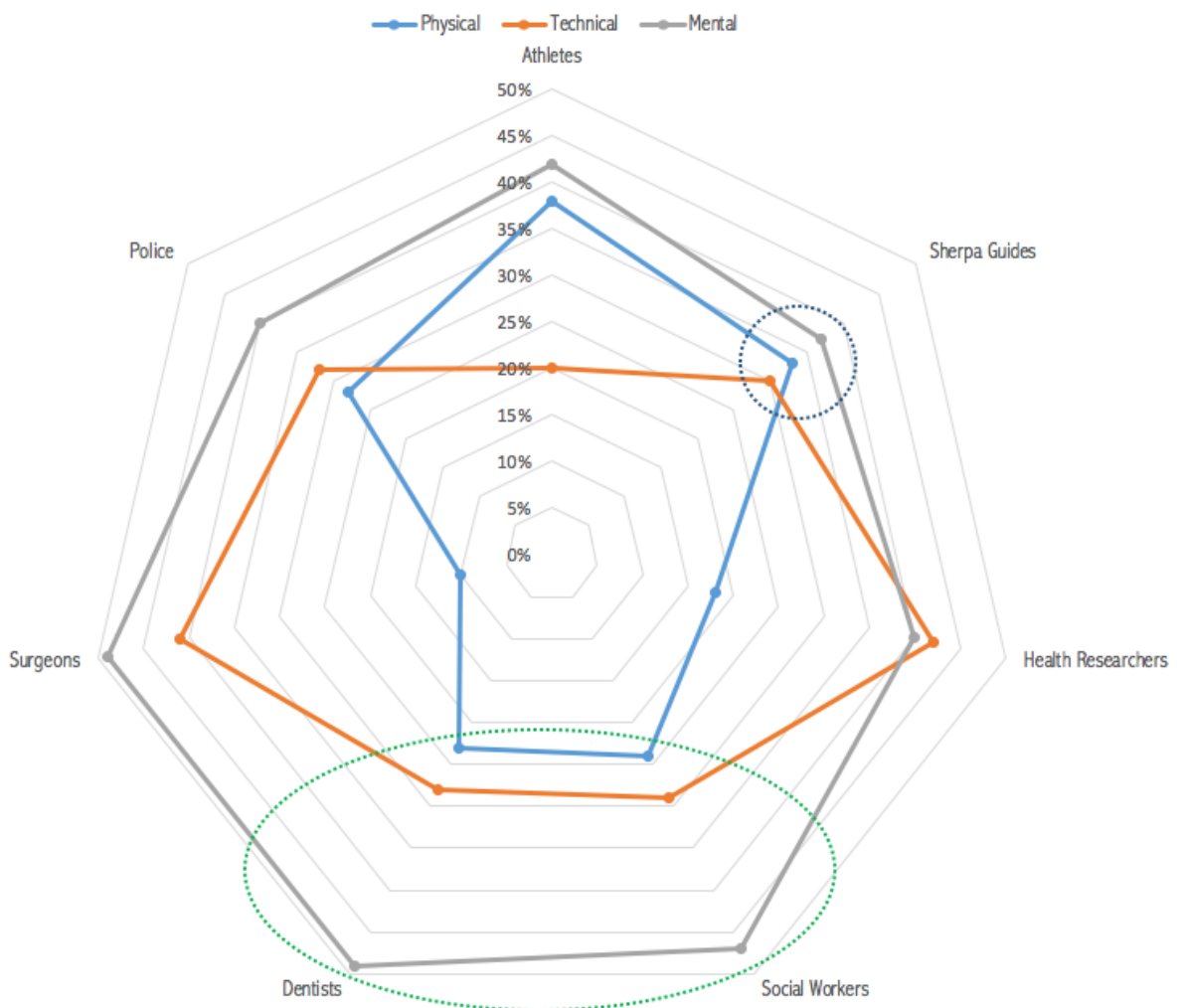


Figure 4.4 Comparison of readiness competencies across professions

Study findings extend beyond their original populations. Insights from police preparedness have informed other protective services, like security guards and border patrols (McDonald, 2007). Similarly, global-health research has influenced epidemiology and remote emergency-response practices. For references from lectures taught, see McDonald (2008-2023, 2021-2023, 2017).

Real-world tools

Intra-professional tools were designed based on each profession's research agenda. These tools targeted operational-readiness core competencies, training enhancement and specialisation, curriculum development, wellness, career progression, and clinical/field assessment.

- ♦ *A Profile of Challenging Situations* helps trainees and seasoned professionals identify challenges and explore strategies. It categorises situations using a customisable template. Some scenarios may require further training or referral, while others suggest mentoring or specialisation opportunities. This adaptable tool applies across professions and agendas.
- ♦ The *Operational Readiness Index (ORI)* for each profession reflects the relative weight of quantitative competencies and qualitative performance indicators. Each profession has a unique index, where the sum of the weighted competencies equals 100%. For FWHSs, 13 performance indicators were chosen as the most practical tool: four technical (31%), three physical (23%), and six mental (46%), closely aligning with actual weighted percentages (McDonald & Hale, 2022, p. 57). This index provides a structure for interviews and training assessments.
- ♦ *Clinical/Field/Site Training Assessments* combine practices, related to competencies and performance indicators, to develop frontline professionals delivering safe, courteous, and effective services. The assessment comprises three stages, with progress reports evaluating comprehension, competency progression, and final competence. Instructors provide feedback and reference trainees' daily logs for objective assessment. This assessment has been applied in dentistry (Figure 3.3), homelessness services (Figure 3.4), and policing (McDonald, 2025, pp. 565-568).

Risk management perspective

In regulatory risk management, communication must fit with risk assessment and decision-making, considering policy, politics, and public perception (Krewski et al., 2022b). An interdisciplinary group emphasised ‘holistic systems-thinking’ to improve risk communication. Recently, Bhuller et al. (2024) identified 20 risk decision principles for managing health, safety, cultural, and environmental issues.

From a broad conceptual perspective, understanding how these principles apply across different professional contexts can help generalise findings to other high-risk fields.

Krewski et al. (2022b, p. 267) illustrated the application of these principles to various risk decisions, which can be adapted for the six high-risk professions plus Olympians, using operational definitions for physical (P), technical (T), and mental (M) readiness. Figure 4.5 summarises the 20 risk principles (P1-P20), categorises them as predominantly P, T, or M, and then assesses their relevance across the professions.

Application of Risk Management Decision-Making Principles Across Seven High-Performance Professions								
Physical (P), Technical (T) or Mental (M) Competency	Risk Decision-Making Principles (Bhuller et al, 2024)	Olympic Athletes	High-Altitude Sherpa Guides	Global Health Researchers	Social Workers in Homelessness Services	Neurosurgeons	Dentists	Police
		T	P1: Risk-based decision making	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P2: Precautionary principle	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P3: Balancing risks and benefits	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P4: Cost-effectiveness	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P5: Risk tolerance	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P6: Zero risk	Largely irrelevant	Largely irrelevant	Largely irrelevant	Largely irrelevant	Largely irrelevant	Largely irrelevant	Largely irrelevant
M	P7: Risk equity	Largely irrelevant	Somewhat relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P8: Stakeholder engagement	Largely irrelevant	Largely irrelevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P9: Openness and transparency	Largely irrelevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P10: Flexibility	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
P	P11: Maintain and improve health	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Largely irrelevant
T	P12: Effective Communication	Largely irrelevant	Largely irrelevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P13: Use a broad perspective	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P14: Use a collaborative and integrated approach	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P15: Make effective use of sound science	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P16: Define roles, responsibilities and accountabilities	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P17: Weave Indigenous Knowledge and Science	Largely irrelevant	Largely irrelevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
M	P18: Respect Ethics and Values (includes AI)	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P19: Apply FAIR Data Principles	Largely irrelevant	Largely irrelevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant	Highly relevant
T	P20: Reduce, Replace, and Refine Animal Studies	Largely irrelevant	Largely irrelevant	Highly relevant	Largely irrelevant	Highly relevant	Highly relevant	Largely irrelevant

Largely irrelevant

Somewhat relevant

Highly relevant

Technical competency

Physical competency

Mental competency

Figure 4.5 Application of risk management decision-making principles across seven high-performance professions

Operational readiness competencies have been broadly evaluated against 20 risk decision principles across high-performance professions. These 20 principles (P1-P20) were predominantly linked to technical competencies (60%; 12/20 principles), followed by mental competencies (35%; 7/20), with minimal emphasis on physical competencies (5%;

1/20). This distribution reflects the focus on decision-making over hands-on risk management.

Technical competencies (60%)

- ♦ High-altitude Sherpa guides, global health researchers, neurosurgeons, and police officers must continuously assess risk and allocate resources to mitigate loss of life and liability (P1).
- ♦ Beyond surgical professions, precautionary principles (P2) are vital for Sherpas, researchers, and police facing unpredictable, dire, or irreversible threats like avalanches, pandemics, or a known gun call.
- ♦ Balancing risks and benefits (P3) are crucial, especially for Sherpa guides and athletes weighing potential injury risks against their goals.
- ♦ Cost-effective operations (P4) are essential, particularly in publicly funded professions prioritising health, safety, and social benefits versus funding of social elite pursuits. Dentists also manage private business responsibilities.
- ♦ High-performance professions set realistic, attainable objectives, avoiding the unrealistic goal of zero risk (P6).
- ♦ Constantly assessing stakeholder engagement and satisfaction (P8) is critical in professions requiring public or board collaboration.
- ♦ Effective communication (P12) is vital, particularly in public services involving client relationships and public perception, such as health, safety, and social wellbeing.
- ♦ Evidence-based science (P15) is foundational in medical and law enforcement fields.
- ♦ Clearly defined roles and responsibilities ensure accountability (P16) in high-risk frontline services.
- ♦ Social workers and police officers must understand and accommodate Indigenous values and culture (P17) in their procedures.
- ♦ FAIR (Findable, Accessible, Interoperable, and Reusable) principles (19) are essential where data sharing advances public health and safety while maintaining discretion for national security and client privacy.
- ♦ Respecting animal rights and reducing animal use (P20) is specific to surgery and medical research.

Mental competencies (35%)

- ♦ High risk tolerance (P5) is inherent in life-and-death environments, such as high altitudes, medical procedures, and emergency responses, requiring diligence and full concentration.
- ♦ Risk equity (P7) ensures fair resource distribution, protects vulnerable populations, and promotes justice and safety, especially in global health and policing.
- ♦ Open and transparent services (P9) are expected to advance and sustain public trust.
- ♦ Heavily regulated professions may have less flexibility (P10) in adhering to strict policies and navigating complex situations.
- ♦ Excellence in high-performance domains involves creative, big-picture thinking (P13) and regular visualising of goals and desired outcomes.
- ♦ Collaborative, integrated approaches (P14) are essential for teamwork to foster confidence, varying in athletics depending on whether the sport is individual or team-based.
- ♦ High ethical standards (P18) are mandated in health research, surgery, dentistry, and policing, where approval and oaths are required.

Physical competencies (5%)

- ♦ Medical and psychosocial services prioritise maintaining and improving health, adhering to the principle of “do no harm” (P11).

Generalising learnings in this risk context may set the stage for future innovation and more detailed operational readiness indices. Recognising the intersection between risk analysis and effective communication regarding the public, policies, and politics of preparedness is important (Bhuller & Trevithick-Sutton, 2024).

Operationalising these principles in curriculum design and training were exemplified by a distraction-control workshop in homelessness services (P7) that addressed frontline worker burnout and compassion fatigue (Kerman et al., 2022; Szeto et al., 2019). Despite concerns that additional training could exacerbate stress, the potential benefits justified the resource expenditure (P3). An “Online Sharing Circle” (P17) (Keethajumar & McDonald, 2022) was piloted to save travel costs, (P4), enhance accessibility, (P7), and incorporate Indigenous healing practices (Lavallée, 2009), proven effective in primary care (Mehl-Madrona & Mainguy, 2014) and employee wellness (P11, P15) (CUPE 5441, 2021). Roles

and responsibilities for both the participant and evaluator roles (P16) were clearly defined, (P12), with an overview of evidence-based practices (P15) and stakeholder engagement (P8). Confidentiality and respect were emphasised (P18). Open, non-judgmental discussions (P9) were shared on realistic scenarios, such as:

Calm support—*When this client was making suicidal comments, a staff started feeling triggered. I needed to instill calmness and provide the support to both throughout the entire situation.*

—Frontline worker in homelessness services, less than 5 years on

Self-talk—*I always use self-talk, but I didn't really see it as a technique—just a way to make sense of a situation. I find it really cool that it can be used as a technique.*

—Frontline worker in homelessness services, 5-10 years on

Source: Keethajumar & McDonald, 2022

Participants supported the approach for improving self-care and service delivery, recommending future operational-readiness topics. Incorporating Indigenous knowledge and science contributes to holistic systems thinking in risk management (Bhuller et al., 2024) and inclusive research, aligning with the United Nations' 2030 Agenda for Sustainable Development (Emerald Publishing, 2022).

4.5 Application of findings

This section outlines what the research evidence brings forward by presenting recommendations and next steps.

4.5.1 Recommendations

Tailored recommendations emerged from six publications, addressing contemporary challenges across various professional fields. These include competencies, gap analysis, policy alignment, multilevel training, recognition, collaboration, and emerging issues:

- ♦ *Advocate for amending core competencies* using evidence-based best practices to enhance recruitment, retention, training, and performance assessment.
- ♦ *Call for rigorous gap analysis* to bridge training deficiencies and performance challenges, emphasising multi-level mental-readiness training.

- ♦ ***Establish a ‘Code of Conduct’*** aligned with national and global policies for transitioning professions.
- ♦ ***Underscore e-learning, mentoring, and ready-to-use support tools*** for frontline and supervisory staff.
- ♦ ***Recognise frontline workers, coaches and mentors***, while screening for burnout and preparedness.
- ♦ ***Foster interprofessional collaboration*** in fields such as dentistry and homelessness services.
- ♦ ***Conduct comprehensive research on emerging issues***, including unprepared applicants, environmental impacts, gender inequity, succession planning, generational gaps, family impacts, and AI implications.

The common thread is the enhancement of overall performance, preparedness, and wellbeing across diverse professional landscapes.

4.5.2 Next steps

Since the start of this PhD, five steps were taken to advance stakeholder engagement, teaching, supervisory roles, publications, and further research. These will be further discussed in Chapter 6.

- ♦ ***Stakeholder engagement.*** Publications have been disseminated for stakeholder discussion and uptake, with the *Gold Medal Policing* book launching in 2025 at international Chief of Police conferences via Routledge and police services.
- ♦ ***Invited lectures and workshop.*** I have guest lectured for epidemiology courses (McDonald, 2008-2023, 2021-2023, 2023-2025), a National Red Cross Retreat (McDonald, 2017), surgical residency workshops (McDonald, 2020a), and European dentistry retreats (McDonald, 2022-2024), with upcoming engagements to present *Gold Medal Policing*.
- ♦ ***Supervisory roles.*** I supervised four Master’s students between 2022 and 2024 who applied the Operational Readiness Framework in pharmacy, homelessness services, software project management, and government external auditing. Recently, I facilitated

a “AI Integration in Dentistry” Working Group for a European delegation (McDonald, 2024) and will serve as a guest editor for a special edition on Operational Readiness in the International Journal of Environmental Research and Public Health (IJERPH). Additional supervisor responsibilities will continue at the University of Ottawa as graduate student projects are defined.

- ♦ **Publications.** Two new publications have been released: the first on Sherpa practices adapted for adventure tourist preparedness, and the second on evidence-based practices in homelessness services (McDonald et al., 2023, 2024). Follow-up publications are in progress by all four supervised Master’s students.
- ♦ **Further research.** The “AI integration in dentistry” Working Group (McDonald, 2024) is currently conducting a scoping review, and collaborative research on neurosurgeon mental readiness in Latin America will commence in 2025 led by the President of the Brazil Society for Pediatric Neurosurgery.

4.6 Conclusions

Adapting and expanding a mental-readiness assessment for Olympic athletes, this research has evolved into a comprehensive operational readiness framework applicable across multiple high-risk professions. The methodology balances physical abilities, technical expertise, and mental acuity without overemphasising or underestimating any competency. Spanning 10 years and six distinct high-risk professions, the framework addresses challenges ranging from economic sustainability in Nepal to court-defensible results in policing.

This work highlights a flexible methodology supported by hierarchical, comprehensive, and generalisable measures. These measures are communicated through relatable vocabulary and practical examples from immersive pilot phases, refined research design, and real-world applications.

First introduced in Chapter 1, this commentary is built on three foundational pillars—Performance Excellence, Preparedness, and Profession Specificity. Chapters 1 to 4 trace the evolution of these pillars from *theoretical foundations* to practical applications, addressing *real-world questions* and making *contributions to knowledge* (see Figure 4.6).

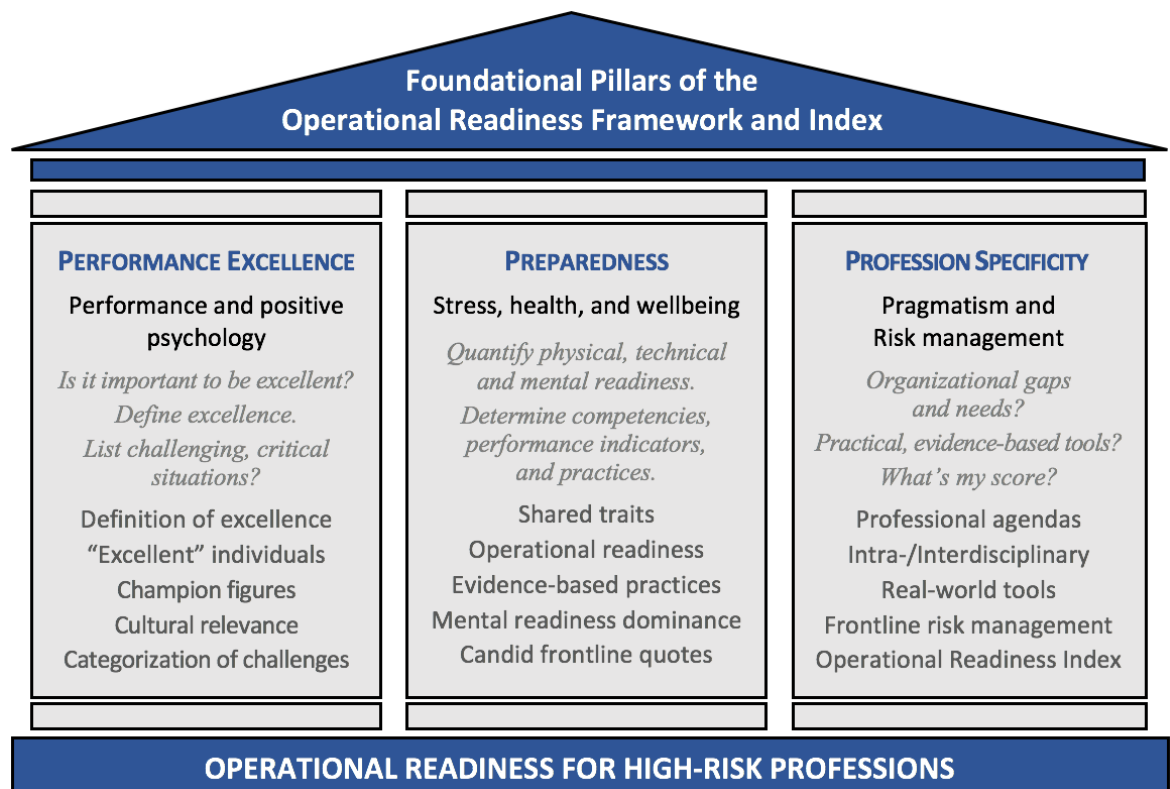


Figure 4.6 Foundational Pillars of the Operational Readiness Framework and Index.

4.6.1 Performance excellence integrates positive and performance psychology, adapting Orlick’s Wheel of Excellence from elite athletes to high-risk professions. Unlike sports, “excellence” must be context-specific, defined, and defended. Purposive sampling of top performers replaces benchmarks set by Olympic medalists. Cultural relevance is established through immersive experiences within each profession before studies commence. Categorising operational challenges refines tools and identifies critical success events where failure can have severe consequences.

4.6.2 Preparedness addresses stress, health, and wellbeing in high-pressure environments, focusing on common frontline issues like limited resources, elevated stress, and fatigue. The investigative process seeks the right balance of three competencies—physical readiness (health, fitness, equipment competence), technical readiness (knowledge, communication, resource management), and mental readiness (commitment, focus, stress management). Mental readiness often dominates, while physical and technical practices vary by profession. Evidence-based best practices and detailed quotes from high performers are synthesised into performance indicators to define each competency.

4.6.3 *Profession specificity* is achieved through real-world pragmatism and risk management principles, aligning with organisational goals. Top performers set benchmarks, while the Operational Readiness Index (ORI) guides the development of evidence-based tools for profession-specific screening, training, and evaluation. Comparing ORIs uncovers unexpected similarities and differences across professions. For example, Sherpa guides show balanced profiles, while dentists and social workers share readiness profiles, particularly in client de-escalation and interaction skills. Incorporating new risk decision-making principles and Indigenous knowledge has enhanced inclusivity and broadened the understanding of excellence.

4.7 Reflections

In continuing to use the prompt questions from Jamieson et al. (2023), the text box that follows contains my personal reflections on the critical appraisal of the publication portfolio. This critique strengthens the credibility and conceptual underpinnings for the original contribution to knowledge (Chapters 5) and the anticipated future directions outlined in the final chapter (Chapter 6).

Reflecting on the critical appraisal, designing an overarching method for analysing data from six different sources was challenging. The five figures in this chapter serve as stand-alone tools for future teaching, providing clear appraisal illustrations. The CASP framework visually represented the ‘champions’ and their agendas that influenced study designs, outcomes, and future directions. Six literature reviews and pilot studies highlighted the unique conditions, assumptions, and gaps within each population. The pilot process as an ‘outsider’ relies on gaining access and mutual respect by securing a high-ranking organisational champion; shadowing frontline workers to understand “excellence,” culture, language/jargon (see Appendix F), and key issues; confidentially sharing pilot notes; anonymously involving frontline staff and middle management in recruitment and procedure design; and ensuring personal conduct aligns with unspoken ethical and cultural boundaries without crossing “the line.” The interview guide was creatively adapted, including FWHS participants in co-interviewing, without compromising core objectives. Open-mindedness to one-off studies created exploration opportunities in high-altitude guiding and dentistry and enriched the recommendations for future research. Next steps, such as implementing an Online Sharing Circle, efficiently utilised limited resources to enhance wellbeing and performance. Developing a holistic appraisal method proved to be a mind-bending exercise, ultimately yielding synthesised conclusions and ‘crystallising’ new insights.

Chapter 5

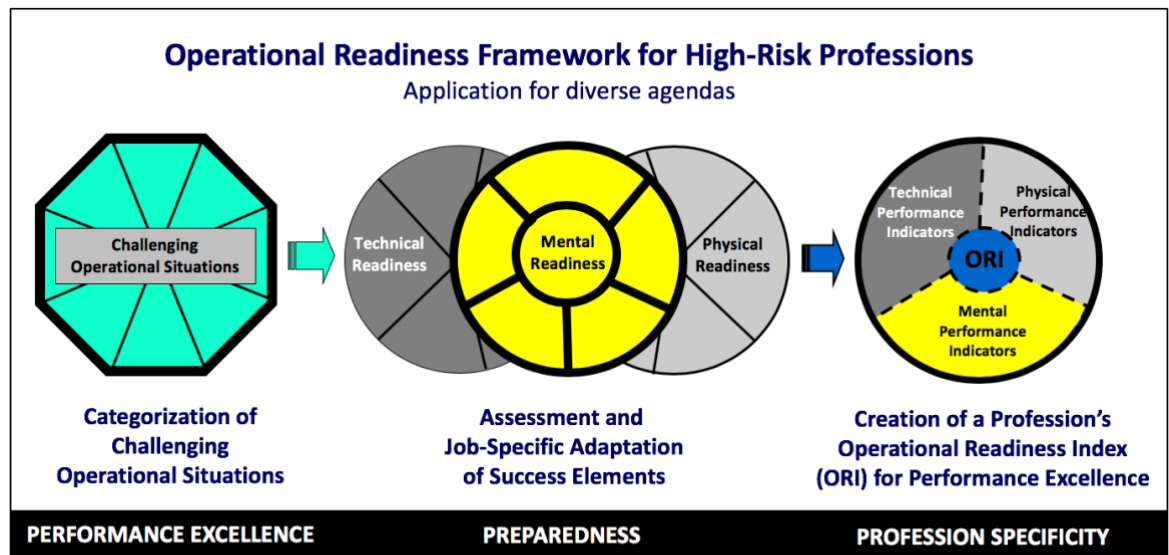
Original Contributions and Significance

This portfolio, spanning six professions, offers insights unattainable in single-profession studies by integrating structure, model, application, awareness, and wellbeing. It introduces a new framework that addresses diverse agendas and generates distinct research grounded in performance excellence, preparedness, and profession specificity. This chapter details this new framework titled ‘Operational Readiness Framework (ORF) for High-Risk Professions,’ and the rationale for expanding Orlick’s Wheel of Excellence. The limitations, strengths, final conclusions, and reflections of the research in this commentary are also detailed.

5.1 Operational readiness framework for high-risk professions

What began as mental-readiness assessments evolved into a comprehensive framework, adapting Orlick’s Wheel of Excellence from Olympic athletes to high-risk professions, forming the investigative process (Figure 2.2 and Appendix C). Over time, this process evolved into a standardised tool, incorporating expanded statistics to evaluate and weight physical abilities, technical expertise, and mental acuity of “excellent” individuals across diverse populations.

This new empirical “Operational Readiness Framework for High-Risk Professions” categorises operational challenges faced by frontline professions, assesses physical, technical and mental preparedness for optimal performance, and establishes a profession-specific Operational Readiness Index (ORI) based on weighted performance indicators and best practices. These quantitative and qualitative measures aim to increase performance consistency, reduce errors, and enhance efficiencies. Candid quotes illustrate various applications for improvement and promote future critical thinking, self-reflection, and self-assessment (see Figure 5.1).



McDonald, J. (2025). Operational readiness for high-risk professions, University of Westminster, p. 82.

Figure 5.1 Original contribution: Operational Readiness Framework for High-Risk Professions, subsequently referred to as McDonald’s Operational Readiness Framework (ORF) [Source: McDonald, 2025, pp. 8, 481]

5.1.1 Categorisation for performance excellence challenges and stressors

Frontline professionals in high-risk environments face extraordinary pressures and stressors, often with lives at stake. These challenges are compounded by issues like resource constraints, elevated stress, fatigue, feeling misunderstood, performance inconsistencies, and knowledge transfer gaps, underscoring the need for targeted interventions and support systems (Charman, 2017).

Categorisations of operational situations tease out heightened risk, difficult individuals, complexity, leadership roles, unfamiliarity, and emotionally-charged situations. For example, heightened-risk scenarios can be likened to a surgeon operating near a major artery, a dentist suturing a torn tongue, or a police officer responding to a known gun call. Testimonials from peers reinforce the anxiety of leading a balanced lifestyle, dealing with the mundane, or managing bureaucracy. Profession-specific challenges reported by “excellent” individuals helps trainees and others recognise stressors, identify preparation strategies, find mentoring opportunities, and translate challenges into occupational ‘winning’ outcomes.

5.1.2 Preparedness competencies, performance indicators, and practices

Competent professionals must provide services safely, courteously, and effectively, maintaining composure under pressure through success and failure. They must be physically, technically, and mentally ready.

Physical and technical competencies are typically well-defined and measurable, while mental competencies require further definition and emphasis. *Physical readiness* includes health and fitness for the job, equipment competencies, environmental stamina, and fatigue management. *Technical readiness* involves knowledge application, communication, understanding organisational and client culture, operational logistics, and resource access. *Mental readiness*, often more critical to peak performance, includes commitment, confidence, positive imagery, mental preparation, full focus, distraction control, and constructive evaluation.

To thrive professionally and personally, this new Operational Readiness Framework generates culturally sensitive, evidence-based performance markers for each profession. It measures and defines competencies with performance indicators and achievable practices for peak performance, supported by anonymous anecdotes from recognised frontline individuals.

5.1.3 Intra- and interprofessional specificity

This framework establishes rigorous, yet flexible standards tailored to each profession, validated by real-world expertise. The Operational Readiness Index (ORI) balances quantitative and qualitative measures to track comprehension, progress, and competence. Cross-profession comparisons reveal unexpected similarities and differences in readiness indices. Isolating and quantifying physical, technical, and mental readiness competencies advanced safety and economics in high-altitude guiding, competency guidelines in global health, mental-readiness curriculum in a changing dentistry climate, refocusing techniques for neurosurgery, burnout for social work in homelessness services, and recognition and preparedness in policing. Preparedness lessons from these diverse fields contribute evidence-based tools for recruitment, screening, training, and assessment, benefitting related public services—health and safety, psychosocial, medical, and protection.

Risk decision-making principles have been successfully integrated into frontline practices across these public services. This underscores that the frontline is the first line of defense in emergencies, responsible for maintaining operational stability in high-risk environments. The application of risk principles integrates considerations such as cost-effectiveness,

stakeholder engagement, risk equity, Indigenous knowledge, and transparency. Applying a risk-science lens to measure performance excellence offers a fresh perspective across various risky, high-performance professions.

5.2 Comparison of performance excellence frameworks

Orlick's Wheel of Excellence and McDonald's Operational Readiness Framework differ in structure, terminology, measures, goals, domain, emphasis, and outcomes. The rationale to extend the Orlick's Wheel of Excellence of mental success elements to McDonald's Operational Readiness Framework is outlined below and in Table 5.1.

- ♦ **Structure.** While Orlick's framework is fixed with seven mental success elements (SEs), McDonald's framework is flexible, starting with generic success elements for physical, technical, and mental readiness.
- ♦ **Terminology.** Orlick uses a single level of terms, whereas McDonald employs a four-level hierarchy: Competencies, Performance Indicators, Practices, and an Operational Readiness Index (ORI).
- ♦ **Measures.** Both frameworks use quantitative and qualitative measures; Orlick's produces generalised mental-readiness tools; McDonald's includes profession-specific operational tools for physical, technical and mental readiness.
- ♦ **Goals.** Orlick isolates mental readiness as a major contributor to excellence; McDonald assesses overall operational readiness for performance excellence.
- ♦ **Domain.** Orlick's framework is based on elite athletes, McDonald's on exceptional frontline professionals in high-risk fields.
- ♦ **Emphasis.** Orlick integrates physical and technical readiness as underlying factors; McDonald assesses all readiness aspects equally and designs weighted performance indicators and practices.
- ♦ **Final outcome.** Both provide quantitative percentage measures for readiness; Orlick only assesses qualitative measure of mental-readiness, while McDonald produces profession-specific performance indicators and practices for physical, technical, and mental readiness, and an Operational Readiness Index (ORI) of overall readiness tailored to each profession.

Table 5.1 Comparison of Performance Excellence Frameworks: Orlick versus McDonald

Comparison of Performance Excellence Frameworks		
Comparison	Orlick's Wheel of Excellence	McDonald's Operational Readiness Framework for High-Risk Professions
Structure	<ul style="list-style-type: none"> Fixed base of 7 mental success elements (SEs) 	<ul style="list-style-type: none"> Flexible model starting with generic, equally-balanced success elements (SEs) for Physical, Technical and Mental Readiness.
Terminology	<ul style="list-style-type: none"> Single level with general and varied terms (i.e., Success Elements (SEs) are also referred to as: core perspectives and skills, mental skills, and mental factors) 'Mental readiness' is used to describe overall readiness and one of the success elements. 	<ul style="list-style-type: none"> Four levels with fixed terms: <ol style="list-style-type: none"> Competencies: Physical, Technical and Mental-Readiness Performance indicators (PIs): Assessed and adapted from SEs based on weighted importance, analysis and profession-appropriate terms. Practices: Profession-specific to define each PI. Operational Readiness Index: Summation of Physical, Technical and Mental Performance Indicators
Measures	<ul style="list-style-type: none"> Quantitative percentage (%) measures of physical, technical and mental readiness Qualitative percentage of mental-readiness SEs Generic tools to assess mental readiness in athletics and other performance domains. 	<ul style="list-style-type: none"> Quantitative percentage (%) measures of physical, technical and mental readiness Qualitative measures of Competencies, Performance Indicators and Practices <ul style="list-style-type: none"> Percentage (%) measures of mental readiness Performance Indicators and Practices Consistency within PIs (Practices per individual) Correlation between Practices Influential factors Classification of Practices: Core, Enhanced, Elective (i.e., >75%, 50-75%, and <50%) Classification of Challenging Operational Situations Classification of Performance Blocks: Immediate, Serious, Individual (e.g., >75% / 50-75% / <50%) Job-specific tools to identify overall operational readiness
Goals	<ul style="list-style-type: none"> To isolate and assess mental readiness as the major contributor to excellence in sport and other domains. 	<ul style="list-style-type: none"> To isolate and assess physical, technical and mental readiness for overall operational readiness for performance excellence in high-risk professions.
Domain	<ul style="list-style-type: none"> Generated from sport elite and medal winners at the Olympics 	<ul style="list-style-type: none"> Generated from "exceptional" frontline individuals, anonymously recognized by both peers and supervisors, performing in "challenging situations" in high-risk professions. Common traits between Olympians and high-risk professionals
Emphasis	<ul style="list-style-type: none"> Mental readiness is most important—"Human excellence in virtually all domains is guided by mental factors" ([24], p.1). Assumes physical and technical readiness are at a high level below mental readiness Physical and technical readiness skills not defined. Physical and technical readiness are integrated into mental readiness (e.g., sleep, nutrition, communication). 	<ul style="list-style-type: none"> Importance of physical, technical, mental readiness for performance excellence is determined for the profession. Physical, technical and mental readiness are initially defined generically with equal weight. Well-established physical and technical readiness practices are isolated and defined by subject matter experts in the profession. Mental readiness practices are isolated and assessed using Orlick's Wheel of Excellence—a reliable, measurable model. Performance Indicators are aligned with the importance measured for each competency.
Final outcome	<ul style="list-style-type: none"> Quantitative percentage measures for readiness using simple definitions for physical, technical and mental readiness for performance excellence. Qualitative assessment for seven mental-readiness 'success elements.' 	<ul style="list-style-type: none"> Quantitative percentage measures for readiness using detailed definitions for physical, technical and mental readiness, labelled as 'competencies' for performance excellence. Profession-specific 'performance indicators' and 'practices' with relevant vocabulary to the profession. 'Operational Readiness Index' specific to the profession.

5.3 Blueprint of guiding principles: Foundational Pillars and Operational Readiness Framework

The Foundational Pillars—Performance Excellence, Preparedness, and Profession Specificity—and the Operational Readiness Framework and Index, provide principles for researching high-risk professions and support evidence-based curriculum design, training, and assessments. This blueprint demonstrates the transition from theory to practice.

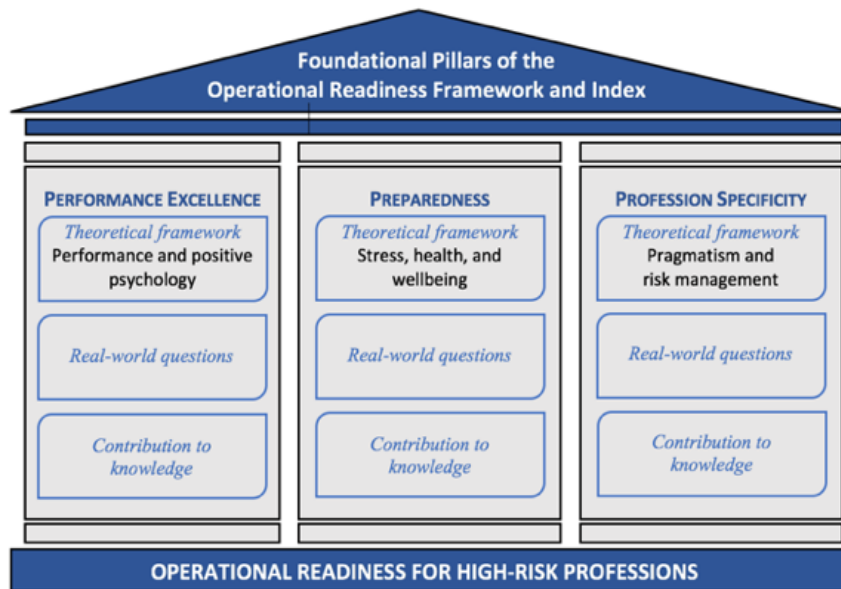
- ♦ **Performance Excellence** adapts investigative processes from elite athletes to high-risk settings, where benchmarks are context-specific and purposive sampling targets top performers. “Excellence” is defined, and critical peak performance events categorised.
- ♦ **Preparedness** balances physical, technical, and mental readiness, with mental readiness often prevailing in high-pressure scenarios. Evidence-based performance indicators are developed and captured through frontline quotes from top performers.
- ♦ **Profession Specificity** uses the Operational Readiness Index (ORI) to uncover unexpected parallels across diverse fields. Grounded in risk management and inclusive methodologies, the research integrates Indigenous knowledge to refine tools and enhance profession-specific readiness for complex, real-world challenges.

A concise back-to-back handout has been designed for practical, real-world applications (see Figure 5.2).

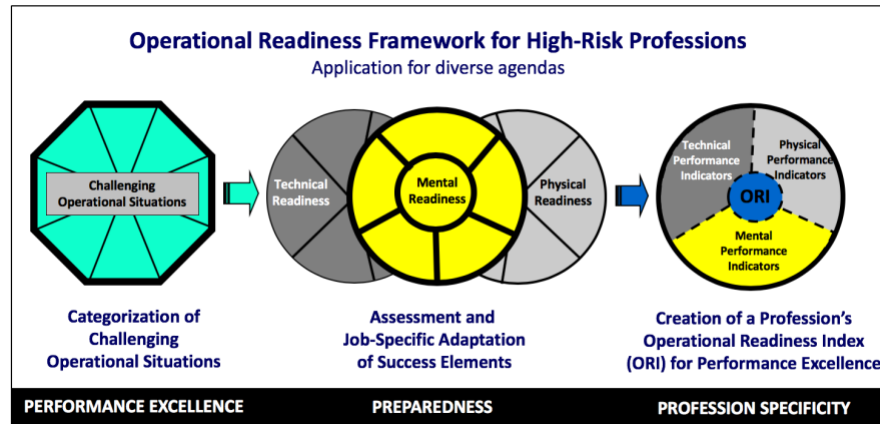


Back-to-Back Reference for Real-World Application: Foundational Pillars and the Operational Readiness Framework for High-Risk Professions

This reference provides a blueprint of principles guiding research on operational readiness for high-risk professions, supporting evidence-based curriculum design, training, and assessments. This concise, back-to-back handout is designed for practical, real-world applications.



McDonald, J. (2025). Operational readiness for high-risk professions,
University of Westminster, pp. 87-88.



PERFORMANCE EXCELLENCE

Challenging Operational Situations—heightened-risk, high-risk/difficult individuals, complex situations, leadership roles, unfamiliar or unprecedented events, and emotionally-charged scenarios.

PREPAREDNESS

Physical readiness: is healthy and fit for the job; can safely perform and complete tasks; has equipment and technology competencies; maintains necessary supplies; has environmental stamina; manages fatigue, food and hydration.

Technical readiness: has knowledge and application in the field; communicates effectively (verbal and written); understands the organisation and client culture and setting; manages operational logistics; and can access resources.

Mental readiness: is committed and confident; uses positive imagery; mentally prepares; can fully focus; manages distractions; and accepts constructive evaluation and copes.

PROFESSIONAL SPECIFICITY

- Physical readiness _____%
- Technical readiness _____%
- Mental readiness _____%
- 100%

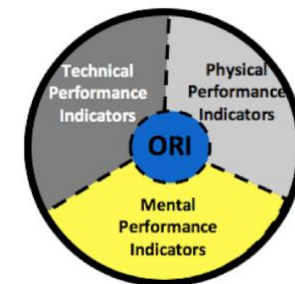


Figure 5.2 Back-to-Back Reference for Real-World Application

McDonald, J. (2025). Operational readiness for high-risk professions, University of Westminster, pp. 87-88.

5.4 Limitations and strengths

Reflecting on this publication portfolio's limitations and strengths, challenges such as geographical constraints and participant diversity are noted, with future steps suggested to reduce these limitations. The research scope, interprofessional approach, and practical impact are emphasised.

5.4.1 Limitations

- ♦ *Geographical constraints:* Research in specific regions, like Nepal's remote areas and, in some cases, Canadian-specific context, may not fully capture global contexts. Expanding research to diverse, global locations using online platforms, mobile apps, virtual interviews, multi-site studies, and remote teams would enhance context and generalisability, improving the broader applicability of the profession profile.
- ♦ *Methodological challenges:* Issues such as bias, data collection difficulties, technological limitations, and temporal constraints could impact the reliability of findings. To sustain robust outcomes, future research should set clear objectives, use rigorous sampling, apply standardised procedures, pilot test methods, and effectively train data collectors and analysts.
- ♦ *Publication bias:* While guided by existing literature and pilot findings, the study design has potential for a certain degree of publication bias or selective reporting. Future steps to minimise selective reporting include making raw data publicly available for transparency, emphasising replication, and fostering diverse research partnerships to reduce vested interests.
- ♦ *Limited participant diversity:* Although six professions were studied, participant selection by peers and supervisors may not fully represent their fields. Diversity can be improved by leveraging varied platforms (e.g., social media), partnering with diverse organisations, and ensuring culturally sensitive, inclusive methods and instruments.

5.4.2 Strengths

- ♦ *Breadth of scope:* The extensive coverage of preparedness in high-risk professions demonstrates a deep understanding, with the scope extended to incorporate risk management principles.

- ♦ *Interdisciplinary approach:* Integration of different methods and theories enriched the outcomes, showcasing successful collaboration with other researchers and practitioners.
- ♦ *Rigorous and innovative methodologies:* Refinement of novel methodologies advanced research techniques, while ethical practices ensured data integrity. All studies were peer-reviewed.
- ♦ *Theoretical contribution and practical impact:* The research enriched theoretical frameworks, with a thorough critique offering new insights and models. Co-created, evidence-based tools ensured real-world applicability.
- ♦ *Consistency and coherence:* The pillars of performance excellence, preparedness, and profession specificity provided a unifying focus, connected theory with evidence, and advanced operational readiness across diverse fields for a well-defined focus for the publication portfolio.

5.5 Conclusion

This commentary outlines five original contributions related to *structure, model, application, awareness, and wellbeing*.

Structure. Three foundational pillars—performance excellence, preparedness and profession specificity—integrate theory, practical applications, and knowledge. This foundation, together with the framework, offers a blueprint to guide research supporting evidence-based curricula, training, and assessments for high-risk professions.

Model. A tailored Operational Readiness Framework combines Orlick’s mental readiness success elements with equitable physical and technical elements based on occupational functionalities. This comprehensive framework evolved from investigating mental readiness across multiple, distinct professions.

Application. Comparative studies across six high-risk professions revealed important similarities and differences. The Operational Readiness Framework offers flexibility, hierarchical terminology, profession-specific tools, and a balanced assessment of physical, technical, and mental readiness. Six research reviews reveal pressing issues within each professional culture. Tailored agendas are addresses from economics and burnout to interprofessional climate and frontline recognition.

Awareness. Insights, enhanced through cross-professional quantitative and qualitative data analysis, show the dominance of mental readiness while highlighting the variance in competencies. Operational readiness learnings are modernised with risk-management perspectives and the online use of an Indigenous Sharing Circle for teaching distraction control.

Wellbeing. Both individual and organisational wellbeing were advanced through improved frontline performance, reduced error-induced stress, and greater consistency. The publications established benchmarks and explicit practices for daily challenges and stressors.

The resulting approach to operational readiness for high-risk professions is holistic, customisable, and generalisable beyond the studied professions. This bottom-up methodology offers a pragmatic, evidence-based framework for preparedness and performance excellence.

5.6 Reflections

Jamieson et al. (2023) argue that reflexivity significantly contributes to reappraising openness and transparency in psychology. It prompts researchers to acknowledge and reflect on their positions, encouraging thoughtful engagement throughout the doctoral research process. The text box below contains my reflections on this contribution to knowledge.

Reflecting on this contribution, understanding organisational culture becomes clearer when informed by frontline anecdotes of successful performance under pressure. The late Dr. Orlick's (1945-2021) early mentorship in human kinetics helped me shape a broader, actionable framework that serves public health and safety. Dr. Waddington's prompting advanced my thinking of foundational pillars which unified theory with evidence, applying operational readiness across diverse fields. Dr. Krewski inspired the connection between operational readiness and risk decision-making, while Dr. Mackenzie's early feedback highlighted my affinity for working closely with participants. This commentary marks a meaningful evolution in my research.

Chapter 6

Next steps and final reflections

Drawing on 40 years of research and practice, this chapter is organised around four anticipated areas for future development—interprofessional opportunities, new frontiers, theoretical growth, and risk management expansion—along with final reflections.

6.1 Interprofessional opportunities

Interprofessional comparisons between high-risk professions reveal both striking similarities and differences in their approach to readiness and professional practice. Surgeons and dentists both score high in mental readiness yet diverge across their physical and technical readiness. Surgeons display a broader range in physical readiness, whereas dentists maintain a more balanced distribution between physical and technical readiness. Both professions emphasise confidence-building, visualisation, and patient preparation, though their methods differ.

Assessing specific performance indicators, such as confidence, can be beneficial. Surgeons build confidence through visualisation and communication over time, while dentists focus on creating a positive atmosphere within the patient's "private space." Global health researchers and police emphasise control and credibility, whereas social workers prioritise optimism and adaptability.

Verbatim quotes from exceptional frontline individuals, embedded throughout the commentary, present evidence-based research and adult education with a soul. Comparing interprofessional approaches to handling distractions or coping with disappointment can offer valuable insights, enhancing performance excellence and wellbeing in high-risk settings. Leavy's (2019) interdisciplinary research uniting diverse experts—from neuroscience and dance to farming—offers a potential real-world blueprint for merging different motivations and backgrounds to generate high-quality insights.

6.2 New frontiers

Building on the research related to the six professions discussed in this commentary, future studies could extend to other fields. For example, examining *astronauts*' operational readiness could highlight the role of mental readiness and psychosocial support in extreme environments marked by constant isolation and risk, emphasising the need for focused psychological interventions. Similarly, *lawyers* navigating courtroom pressures, where clients' fates are dictated by intense prosecution and defense exchanges, merit attention. Research on *politicians* seeking public office, *managers* of large companies, *investigative journalists*, and other skilled professionals may offer insights for more effective outcomes. Modern societies face *global security challenges*, such as cognitive warfare, which blends psychological tactics with real-time media influence, exemplified by the "CNN effect" (Gilboa, 2005). A 2024 brief by a Taiwanese scientist (Liu, 2024) applied the Transtheoretical Model from positive psychology (Prochaska & Prochaska, 2019) to explain behavioural changes in cognitive warfare. *Global emergencies*, including the COVID-19 pandemic, highlight the need for post-crisis psychosocial support (Radfar et al., 2021). Operational readiness can help address trauma symptoms like absenteeism, memory issues, anxiety, and stress.

Research such as *Gold Medal Policing* highlights *artificial intelligence's (AI's) role* in predicting crime and assessing risk, sparking debate about fairness, accuracy, and bias. While AI holds promise, it raises ethical concerns, public scrutiny, and calls for political oversight, stressing the need for greater mental readiness on the frontline (Berk, 2021; McDaniel et al., 2021). Emerging concerns about AI, including job loss due to automation and potential existential threats, should also be considered in light of these lessons. Currently, an *AI preparedness guide for medical and dental practices* is under exploration. The underappreciated roles of *grocery store workers, delivery services, and cleaning and sanitation staff* during COVID (Browning & Haigh, 2022; Laugier, 2022), illustrate the vast opportunities for future researchers in any field with simple prompts like:

Ask graduate students to:

- ♦ Choose a profession to implement the Operational Readiness Framework (ORF) aimed at improving frontline performance.
- ♦ How would this enhance public health and safety?
- ♦ What would your research design and programme entail?
- ♦ Use the back-to-back reference (Figure 5.2) as a guide.

Source: McDonald (2008-2023)

6.3 Theoretical growth

Theoretical development of the Operational Readiness Index (ORI) could expand to include influential factors such as age, gender, and specialised experience. Applying the ORI to domains like artificial intelligence (AI), self-driving cars, and autonomous systems can improve safety, reliability, and decision-making. Investigating constructs like de-escalation and confidence, while integrating Indigenous practices, would contribute cultural relevance and promote interconnectedness, diversity, and inclusion in an equity-focused era.

In professional training, particularly in policing and surgery, there is growing fatigue around the concept of ‘resilience,’ often viewed as addressing weakness. However, professionals tend to be more receptive to discussions on mental readiness for peak performance. A police chief noted:

Readiness and resilience—*The notion of “readiness” as opposed to “resilience” captures a greater strength-base and positive description of being “psyche-fit” for such strenuous work.*

—Police Chief, p. 312

Source: McDonald, 2025

The readiness-resilience relationship must be better aligned both theoretically and practically. Full readiness—physical, technical, and mental—forms the foundation for true resilience. Without bridging this gap, resilience training risks being incomplete and less effective in high-pressure environments. Reframing resilience and readiness could pave the way for a new pathway to excellence.

6.4 Risk management perspectives

Incorporating fundamental principles from the broader field of risk management could enhance the operational readiness paradigm. The 20 principles articulated by Bhuller et al. (2024) offer valuable insights into addressing operational readiness challenges. More generally, engaging risk science experts in transdisciplinary discussions about performance excellence and its contributions to risk reduction could prove highly beneficial.

6.5 Final reflections

Reflexivity, initially new to me, has proven helpful in tracking significant steps in my research and commentary as I complete this PhD by Published Work. The text box below contains my final reflections on the strategies and insights that have shaped my pursuit of operational readiness and performance excellence in high-risk professions.

Reflecting on this PhD venture, Orlick’s strategies for goal setting, learning from setbacks, and managing distractions were invaluable for navigating the complexities of doctoral research. Deconstructing operational readiness into physical, technical, and mental competencies was central to my research, demonstrating how these elements interact under stress to improve performance. Quantitative data justified a detailed qualitative analysis of preparedness practices and performance indicators. Co-creating tools with professionals from diverse fields ensured that my approach remained authentic. A police officer suggested, “*Operational readiness* would resonate better,” underscoring the alignment of research with real-world needs. An unintended outcome of this work was presented at a Westminster Centre for Psychological Sciences (WCPS) Research Talk (McDonald & Waddington, 2024) (see Appendix G), with Senior Editor Ellen Boyne from Routledge Publishing in attendance. Titled “Operational Readiness for High-Risk Professions and Working Proactively with Publishers,” this reinforced Chong’s (2022) work on how academic alliances with publishers can drive doctoral innovation. The success of each study relied on the drive and support from high-ranking officials, and future research will likely be propelled by new leaders seeking to align their professional agendas with the Operational Readiness Framework.

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Appendix A

Excerpts from Reflexivity Process Using Jamieson et al. (2023)

Reflexivity was integrated into all stages of the research process. The purpose of this appendix is to illustrate my reflections and engagement with the material as a reflexive researcher, and the ‘interpretation’ phase of immersion-crystallisation (see Figure 2.4). Below are excerpts from my notes in response to Jamieson et al.’s (2023) 16 questions presented in Table 1.1.

Stage of research	Broader reflexivity prompts
Research question and design	<p>♦ Should I be the one to research this group, or am I taking space away from someone else?</p> <p>Whether I should lead this research depends on factors like the research’s origin, agenda, and expectations. As principal investigator, it is important to align research goals with the group’s professional needs and priorities, while also managing partnerships and deliverables. Research assistants play a key role but must receive clear guidance to meet objectives. Similarly, student projects require close supervision to maintain focus on the overall goals. It is important to evaluate if my involvement adds value or if there is a more appropriate researcher whose perspective may be more relevant or needed.</p>
Data collection	<p>♦ How can I make this research accessible to the population?</p> <p>To ensure accessibility, research goals must align with the profession’s agenda, securing support from both executive and informal frontline leaders. This buy-in ensures the research is seen as relevant and beneficial. Setting and achieving short- and long-term deliverables helps maintain momentum and ensures timely completion while reinforcing the profession’s objectives. After publication, actively engaging with the target population through workshops, presentations, or online platforms increases the chances of successful implementation, making the research more accessible and actionable.</p>
Data analysis and interpretation	<p>♦ Am I aware that people have given me this data and that they may not know me (e.g., survey, health, admin data)?</p> <p>I am aware that individuals providing data—whether via surveys, health records, or administrative sources—likely do not know me personally. To bridge this gap, trust must be established early. Formal or informal introductions, delivered in person, online, or through written communication by a trusted professional leader, can help build rapport. Providing a clear statement of the study’s purpose, timeline, and contact information promotes transparency and reassures participants about the legitimacy and intent. This process ensures ethical engagement and builds trust, despite the lack of a personal connection.</p>

Conclusions and framing	<p>♦ What do I gain from this research? What does the population I have studied gain?</p> <p>Studying top performers is both intellectually stimulating and productive, providing high-quality, actionable data. This research advances my understanding of the operational readiness framework while contributing to broader knowledge across diverse professions. For the populations studied, this research offers practical solutions to their frontline challenges, enhancing professional efficacy and promoting societal and internal wellbeing.</p>
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Appendix B

Orlick's Wheel of Excellence: Mental readiness success elements

Orlick's Wheel of Excellence presents a conceptual model detailing seven success elements essential to excel. Some terms have been modified to better suit professional contexts, as indicated in parentheses below.

1. **Commitment and self-belief (or confidence)** are the underlying core of excellence and can become the central focus in one's life without becoming the only focus. Commitment implies a strong personal reason to excel, or a powerful driving desire to be the best that individual can possibly be. This ensures that the individual puts in the quality or quantity of work required to excel and dedicates the necessary time to fully develop the critical mental readying skills required for the successful pursuit of excellence (Orlick 1992, p. 8-9).

Mental readying skills that produce a superior performance at critical events are defined as follows (Orlick & Partington, 1988).

2. **Positive images (or positive imagery)** involve visualising to pre-experience or re-experience desired performance skills or results. It is used in preparing to get what is wanted out of training, perfecting skills in training sessions, making technical corrections, imagining success in competition, and seeing oneself achieving the ultimate goal. Daily use is essential to achieve quality (i.e., seeing and feeling) and control in the visualisation.
3. **Mental readiness (or mental preparation)** entails systematic procedures for leveraging one's strengths in competitions. This includes mental imagery, physically warming up, rituals, positive thinking, and focus reminders on what has previously worked well. A well-developed, refined, and consistently practiced pre-event plan ensures a constructive focus going into the event.
4. **Full focus** involves staying centered in the present, concentrating on the task at hand, and connecting totally on what is within one's immediate control for the duration of the task, to the exclusion of irrelevant thoughts—such as dwelling on outcomes, other competitors, or other distractions that can decrease performance. Success depends on refining a focus plan for use during the event.
5. **Distraction control** addresses dealing with “things that are expected or unexpected that can pull you off track.” Strategies include avoiding distractions, getting back on track quickly when faced with distractions, managing negative input, like avoiding the scoreboard, deciding not to watch everyone else, or using headphones. High-stress environments demand refocusing skills to maintain performance.
6. **Constructive evaluation** involves extracting the important lessons from every critical event. Proper debriefing helps adapt and refine mental approaches, contributing to ongoing, ever-higher levels of personal excellence.

Appendix C

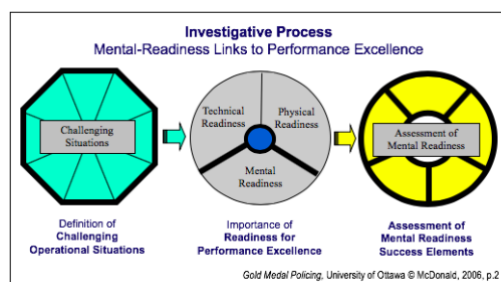
Investigative process

Literature reviews: Research reviews across diverse fields, from Nepalese economics and interprofessional climate changes in dentistry to law enforcement predictors of performance excellence, provided insights into frontline preparedness, identified knowledge gaps, and set research directions, laying the groundwork for the pilot phases. These full reviews can be found in the five publications and single authored book presented in this portfolio.

Pilot phases: As the principal investigator, a willingness to undergo extensive orientation was necessary, usually lasting weeks or months. Participation included high-altitude treks, full-shift ride-alongs with police officers, international homestays, homeless shelter activities, and clinical procedures with surgeons and dentists—and seizing any other opportunities to gain insight. These immersive experiences ensured the relevance and credibility of the research approach, enabling adaptation and replication within high-risk environments.

Investigative Process: Comprising various templates, the Investigative Process follows established risk-science practices (Krewski et al., 2022a; 2022b) by identifying real-world “challenges” from a frontline-perspective; defining optimal performance under these conditions; and determining how “the best of the best” mentally prepare using the success elements in Orlick’s model.

This methodology has cut across many different professions servicing public health and safety. From a theoretical perspective, this work provides the foundation for optimising performance under challenging conditions across other non-sport high-performance disciplines.



Throughout its refinement across multiple high-risk professions, the three core objectives remained consistent in:

- a. Define and categorise challenging situations using a generic template for high-risk occupations (McDonald et al., 1995).
- b. Determine the relative importance of physical, technical, and mental readiness in achieving overall

performance excellence, using balanced definitions for each competency.

c. Isolate and assess mental-readiness success elements using Orlick’s Wheel of Excellence, which accounted for the often understated and intuitive nature of mental readiness within technical and physical competencies in high-risk professions.

d. identifying the practical implications (“the fit”) to measure operational readiness with evidence-based practices.

The Before Design Theoretical Placement (BDTP) model guided this mixed method process, linking theoretical frameworks to research design (Alavi et al., 2018). The adaptation of an Olympic athlete model into an Investigative Process for high-risk professions exemplifies concept, statement, and theory development as follows:

- **Concept development:** The adaptation of an Olympic athlete model into an Investigative Process for high-risk professions.
- **Statement development:** Translation of terms like “the Olympics” to “challenging situations.”
- **Theory development:** Theoretical foundations in performance and positive psychology, stress, health and wellbeing, and pragmatism and risk management.

Appendix D

Template analysis and immersion-crystallisation

Qualitative data on mental readiness in these studies were analysed using Thematic Analysis, specifically template analysis and immersion-crystallisation, to identify and interpret themes.

Template analysis is a thematic analysis approach that begins with an initial template to identify themes in the data (Clarke et al., 2015; King, 2012). Unlike Grounded Theory (Braun & Clark, 2006) which generates themes from scratch, template analysis uses pre-existing themes. In this case, the “a priori themes” in the Wheel of Excellence served as the template to assess the presence of seven mental-readiness elements practiced by exceptional individuals in challenging situations.

For instance, Sherpa guides’ Commitment arises from the deep responsibility felt when someone dies in their arms. Their Self-Belief/Confidence is rooted in the natural beauty of their environment, the humble Nepali culture, and the fame of Sherpa climbers. Positive imagery/visualisation is often used to plan routes and re-evaluate when things go wrong.

The analysis was enriched by capturing candid quotations reflecting participants’ values, experiences, and perspectives. A dentist, for instance, explained how he maintains commitment:

Daily balance—*It is an ongoing challenge to keep your life in balance because unless YOU are right [laugh], nothin’ else is right. I work on a work-play-love-worship model. You need a balance of these things. You can’t work 24 hours a day...I try on a daily basis to dedicate myself to each section... If you are aware of that from the start, then you’re not likely to get into too much in one area. If you do, at least have the realisation why you’re out of balance, and what needs to be done to rectify it. That is HUGE.*

Once data saturation was reached, themes were isolated, and descriptive statistics were performed. Classifications for practices (core, enhanced, elective) and performance blocks/stressors (immediate need, serious, individual) were established. Thematic Analysis (Clarke et al., 2015) was central in identifying and interpreting data themes across the six professions, guided by the aim to expand Orlick’s Wheel of Excellence. It demonstrated adaptability across varying sample sizes and data collection methods, particularly in applying positive psychology principles to optimise functioning in various domains (Gable & Haidt, 2005; Csikszentmihalyi & Seligman, 2014).

Immersion-crystallisation allows patterns to emerge naturally from deeply exploring the data (Borkan, 2022) [104]. This method focuses on flexibility, careful analysis, and refining interpretations through repeated review. It helps ‘crystallise’ key themes and confirm accurate conclusions. Isolating significant themes from the predefined (a priori) codes also helped organise the data and highlight aspects like risk management.

As thematic insights emerged, the analysis extended to assess the distribution and consistency of practices within and between Orlick’s success elements, later renamed Performance Indicators, which is further developed in Chapter 3.

Appendix E

Published work and independent reviewers' impact statements

This publication portfolio includes six peer-reviewed studies, summarised in Chapter 3, detailing the refinement of the Operational Readiness Framework and interprofessional comparisons. Three studies cover social work in homelessness services, global dentistry, and Sherpa guiding, while the other two define core competencies for global health research and neurosurgeons' focus in the operating room. The portfolio also features *Gold Medal Policing* (2nd edition), an updated analysis of high-performance readiness in law enforcement with new coach-officer data. This research has received academic praise from various experts as presented below.

Profession, Sector, and Publication Web Link	Independent Reviewer Comments on Impact of the Research
<p>Public safety services High-altitude guiding Operational readiness: Links to Sherpas' peak performance in tourist mountain-guiding</p>	<p>Collaboration with the Government of Nepal and the International Union for Conservation of Nature, Nepal Country Office.</p>
<p>Public health and safety services Global Health Research Operational readiness for conducting global health research abroad</p>	<p><i>You use purposive sampling to investigate preparedness of the best-of-the-best in any given profession. Your empirical framework applies to vastly different occupations with detailed specificity from neurosurgeons to Sherpa guides. Your access, gained trust, and scientific accomplishments with extraordinarily skilled professionals are noteworthy. This novel cross-disciplinary approach has immediate application to epidemiology and global health classes at McGill.</i></p> <p style="text-align: right;">—Dr. Theresa Gyorkos, Professor in Parasite Epidemiology McGill University, Montreal, CA</p>
<p>Social services Social homelessness services Mental Readiness for Frontline Workers in Homelessness Services in Ottawa, Canada</p>	<p>Collaboration with the City of Ottawa as leaders in tackling homelessness.</p> <p><i>Your article pdf has already been downloaded 123 times, marking this as our fastest article to reach 100 downloads and our second most downloaded article to date. Thank you again for this valuable contribution and I'm pleased to see it is being shared broadly.</i></p> <p style="text-align: right;">—Dr. Abe Oudshoorn, Managing Editor, IJOH</p>

<p>Medical services</p> <p>Dentistry</p> <p>Exploration of mental readiness for enhancing dentistry in an inter-professional climate</p>	<p>Collaboration with the Brescia School of Dentistry (Italy) and the International Federation of Dental Educators and Associations to address a shift by WHO to interprofessional oral healthcare.</p> <p><i>Early reflection on readiness may help post-grads achieve clearer direction, in addition to happiness, satisfaction and pride in their work. Building confidence, rituals, and coping strategies are early survival practices much needed for work–life balance in dentistry.</i></p> <p>—Seasoned Dental Hygienist, North America</p>
<p>Medical services</p> <p>Neurosurgery</p> <p>Mental readiness: Focusing on the cutting edge</p>	<p><i>Yesterday we reached a milestone in Pediatric Neurosurgery. This subject is under-estimated by many services. Indeed, our residents haven't received any kind of knowledge about these concepts at all.</i></p> <p>—Dr. Ricardo de Oliveira, Neurosurgeon, President of the Brazilian Pediatric Neurosurgery Society, 2020</p> <p><i>There is no doubt that it is a first-class publication and should be read by all trainees and young consultants... This concept to the best of my knowledge has never been put on paper until your publication came out.</i></p> <p>—Program Chair: Spinal surgeon, Oxford, Australia, International Scoliosis Research Society Meeting, Dublin, Ireland, 1993</p>
<p>Protective services</p> <p>Policing</p> <p>Gold Medal Policing: Operational Readiness and Performance Excellence, 2nd edition</p>	<p><i>I especially liked that coach officers were surveyed... The measures and language are derived from the police themselves not imposed from a pre-existing model. The technical and physical readiness provides a larger scope to examine excellence that is often missed by other sports psychology books that concentrate mainly on mental techniques.</i></p> <p>—Reviewer 1, Academic</p> <p><i>The strengths of the book include: 1) It is well sourced and structured, and 2) The information is detailed and provides comments from working officers who participated in the study. The variety of officers' experience and positions supports the relevance of the findings to a broad group of officers.</i></p> <p>—Reviewer #3, Sergeant and Chief Instructor</p>

Appendix F

Acronyms and jargon in homelessness services

These acronyms and unusual terms are excerpts from notes taken during pilot tours of seven homelessness-service facilities and 21 interviews with frontline staff working in homelessness services. Learning acronyms and frequently used words often provides profound cultural insights. These two lists—featuring acronyms and the first 50 new or commonly used words—were later used as a fun quiz and self-reflection tool in training workshops for frontline workers in homelessness services (FWHS) and facility managers.

You are a frontline worker in homelessness services if...
you can use these letters in a sentence:

CCW	MAP	SOR
CFSA	NAMS	SPDAT
CRF	ODSP	SUP
CTO	OW	TDA
HBCM	MRSA	TED
HIV	PGT	TESP
HRT	PTSD	YOA

First 50 new or usual words I heard in touring shelters... *and thought, “Whaaaat?”*

- | | | |
|-------------------------------|---------------------------|--------------------------------|
| 1. Adult Children | 1. Life Skills Program | 1. Shelter trained |
| 2. Alzheimer's stove | 2. Med compliant | 2. Showering schedule |
| 3. Apartment take-over | 3. Missing-Persons Report | 3. Social initiatives |
| 4. Attention seeking behavior | 4. Money management | 4. Stabilization |
| 5. Bail reforms | 5. Money Wise | 5. Stages of change |
| 6. Barred | 6. No seconds | 6. Substance of choice |
| 7. Bed rebooking | 7. Panning | 7. Suicidation |
| 8. Boundaries | 8. Boundaries | 8. Boundaries |
| 9. Cooker | 9. Planned ignoring | 9. Supportive housing |
| 10. Drug Treatment Court | 10. Portable services | 10. Taster-hit |
| 11. Empowerment Model | 11. Pour time | 11. Trauma fatigue |
| 12. Extinction technique | 12. Radio checks | 12. Trauma-informed care |
| 13. Hands-off policy | 13. Recidivism | 13. Triage personnel |
| 14. Harm Reduction Programs | 14. Respect Rx | 14. Value-guiding intervention |
| 15. Home Environment Index | 15. Safe alcohol | 15. Wake-ups |
| 16. Housing First | 16. Scattered site | 16. Wilburton and methadone |
| 17. Items in storage | 17. Self-care | 17. Word salad |

Appendix G

Westminster Centre for Psychological Sciences Research Talk

Operational Readiness for High-Risk Professions and Working Proactively with Publishers

J. McDonald and K. Waddington

May 8, 2024

On May 8, 2024, McDonald and Waddington presented at a Westminster Centre for Psychological Sciences (WCPS) Research Talk, with Senior Editor Ellen Boyne from Routledge Publishing in attendance. The presentation, titled “*Operational Readiness for High-Risk Professions and Working Proactively with Publishers,*” reinforced Chong’s (2022) work on how academic alliances with publishers can drive doctoral innovation. The PowerPoint presentation follows.

WCPS
RESEARCH TALK
 Wednesday 6th of May 2004 12.00-2.00
 Room 06-00000 in Publishing 0th Floor - Capital Building

Operational Readiness for High-Risk Professions and Working Proactively with Publishers

Judy McDonald
 PhD by Published Work
 University of Westminster

Kathryn Weddington
 Emerita Fellow
 University of Westminster

In this talk Judy and Kathryn will share and reflect on their experiences of working proactively with publishers in particular Routledge Professor in Psychology Judy McDonald by Published Work 'Operational Readiness for High-Risk Professions' includes peer-reviewed articles and 20 articles of her book 'Global Mental Health: published with Routledge. Her independent research focuses on the health of high-risk professions and the impact of work on mental health.

Her experience with this talk includes publication of a single author of course in 'Operational Readiness for High-Risk Professions' in 2004. It is an edited volume which would cover 20 high-level or Professor Dr. Kathryn Weddington, published for the first time in 'Operational Readiness for High-Risk Professions' and 'Working Proactively with Publishers' published for the first time.

Her experience with this talk includes publication of a single author of course in 'Operational Readiness for High-Risk Professions' in 2004. It is an edited volume which would cover 20 high-level or Professor Dr. Kathryn Weddington, published for the first time in 'Operational Readiness for High-Risk Professions' and 'Working Proactively with Publishers' published for the first time.

She is interested in hearing the experience of your writer and publisher process, online publication sites.

Open to all disciplines and level students.

Kathryn Weddington, Emerita Fellow
 Judy McDonald, PhD by Published Work Candidate

Operational Readiness for High-Risk Professions and Working Proactively with Publishers

UNIVERSITY OF WESTMINSTER

WCPS Talk
 University of Westminster
 Wednesday, May 6, 2004
 Pavilion at Cavendish and Virtual

Overview

- What is a PhD by Published Work?
- Judy's experience of PhD so far and with Routledge
- Kathryn's experience with Routledge, Frontiers in Psychology and Springer
- Reflections: lessons learned and top tips
- Q & A

PhD by Published Work

- A coherent body of work which is the same quality, rigour and volume as a standard PhD
- No thesis, but a portfolio of peer-reviewed publications
- A 15,000-word commentary which:
 - describes the aims of the research
 - incorporates analytical discussion with main results and conclusions
 - puts the total work submitted in context
 - demonstrates the original contribution to knowledge
 - shows evidence of appropriate research skills, and
 - continuous professional development and training
 - minimum 1-year, maximum 2-year P/T enrolment

PhD by Published Work and... Working proactively with publishers

Judy McDonald
 PhD by Published Work
 Operational readiness for high-risk professions
 Psychology—Stress, Health and Wellbeing
 University of Westminster

Operational Readiness for high-risk professions

- Olympic athletes
- Surgeons
- Air Traffic Controllers
- Police
- Social Workers
- Dentistry
- Global Health Researchers
- Sherpa Mountain Guides

Judy McDonald, MA Ed, BSc Kin
 Associate Director and Adjunct Professor
 Population Health Risk Assessments
 Faculty of Medicine
 University of Ottawa, Ottawa, Canada

PhD by Published Work at uWestminster

Operational readiness for high-risk professions

- Olympic athletes
- Surgeons
- Air Traffic Controllers
- Police
- Social Workers
- Dentistry
- Global Health Researchers
- Sherpa Mountain Guides

Practical and Evidence-Based Policing Series

2018 Routledge request for a book review...

"Demystifying commentary guidelines of PhD by published work in the UK"

Shi Wang Cheng (2022) Demystifying commentary guidelines of PhD by published work in the UK: Insights from genre analysis, *Innovations in Education and Teaching International*, 9(3), 349-358, DOI: 10.1080/14703297.2020.1871396

It suggests that editors and peer reviewers are vital in doctoral education. Promoting collaborative partnerships with publishers outside of universities is innovative at the doctoral level.

The Plan

1. How I got here ✓
2. Research: *Operational readiness in high-risk professions*
3. Conclusions and PhD contribution
4. Routledge contract: *Gold Medal Policing, 2nd ed.*
5. Working proactively with publishers
6. PhD by Published Work: "Case-Study Template?"

Background: Foundational Pillars

OPERATIONAL READINESS FOR HIGH-RISK PROFESSIONS

Operational readiness for high-risk professions

OPERATIONAL READINESS FOR HIGH-RISK PROFESSIONS

Preparedness for performance excellence

Overall readiness for peak performance... based on original work with elite athletes.

Risk Management: First line of defence in managing risk is... on the frontline

Gold Medal Policing, University of Chester & MacDonald, 2008

Major findings

Mental Readiness Skills
are a major contributor to peak performance.

Mental Readiness Skills
can be measured and taught
and will improve performance.

Methodology

*To produce peak performers,
we need to develop the skills
that we **know** separate
the **best** from the **rest**.*

Therefore, this is **NOT** a random sample.

This is "purposeful sampling"
of a specific population cohort for
"excellent" performers
identified anonymously and confidentially
by both their peers and supervisors.

Investigative Process: From athletics to high-risk professions

Investigative Process
Mental-Readiness Links to Performance Excellence

Challenging Situations

... What makes you move a little faster or stand a little more still?

- Difficult procedures/situations
- Particular individuals
- Complex procedures/situations
- Teaching/coaching others
- Emotionally-charged situations
- First-of-its-kind procedures
- Unfamiliar procedures

Challenging Situations for social service workers

Comfortable, Not uncomfortable and Challenging

University of Ottawa • McClellan • 2017

Important question: In your profession...

What does it mean
to be "ready" ...
for critical activities?

- **Physically**
healthy • proper vaccines • safely perform and complete physical tasks • has equipment/computer competencies • eats/hydrates adequately • manages fatigue.
- **Technically**
Knowledgeable and can apply techniques • communicate effectively (verbal and written) • and understands the organization infrastructure, community and culture.
- **Mentally**
confident • committed • clear-headed and sees "big picture;" adaptable as a team player • able to concentrate • refocuses • evaluates decisions • and copes well.

Important question: *In dentistry...*

What does it mean to be "ready"... for critical activities?

- **Physically** healthy and fit; has **good ergonomics positioning** (no stress-related injuries; e.g., back, neck, shoulders, arms, carpal tunnel); has **good vision**; manages fatigue; performs necessary hand-skill coordination, tactile sensitivity and manual dexterity, is artistic; carves nicely; uses mirror.
- **Technically** has knowledge and application of dental techniques; knows and follows directives/laws; coordinates patient treatment plan and referrals; has **good business practices** (policies, billing, receivables); has robust equipment and instruments; effective at verbal and written communication.
- **Mentally** confident, committed and compassionate; **able to build relationships**; clear-headed; adaptable to change; sets a goal and a plan; has a positive attitude and deals with unplanned situations; able to concentrate and refocus; evaluates decisions with effective coping skills.

Exercise

As a "researcher"
when you perform at your best,

how much do you believe your overall performance depends on your

- Physical readiness _____%
- Technical readiness _____%
- Mental readiness _____%

100%

What percentage would you allot to each (to add up to 100%)?

Physical • Technical • Mental Readiness and Performance Outcome

	Orange Airliner	Emergency Responders	Police	Shrimp Min. Guides	Social Workers
PHYSICAL Readiness	38%	27%	28%	33%	24%
TECHNICAL Readiness	20%	30%	32%	30%	29%
MENTAL Readiness	42%	43%	40%	37%	47%

University of Ottawa © McDonald, 2006

Physical • Technical • Mental Readiness and Performance Outcome for Health Professionals

	Doctors	Surgeons	Emergency Responders	Social Workers	Global Health Researchers
PHYSICAL Readiness	23%	10%	27%	24%	18%
TECHNICAL Readiness	28%	41%	30%	29%	42%
MENTAL Readiness	49%	49%	43%	47%	40%

University of Ottawa © McDonald, 2005

Readiness Across Health Professions

- **Mental readiness** was strong across all professions.
- **Profiles were similar** for surgeons and global-health researchers.
- **Profiles were similar** also for dentists, social-service workers and emergency responders.
- **Physical readiness** was ranked third by all but highest for emergency responders and lowest for surgeons.

University of Ottawa © McDonald, 2006

Wheel of Excellence

Common success elements in world-class athletes and other high performers

Ottawa, 2003, 1992, 1996

Confidence practices... for global-health researchers

- ❑ Be a team member
- ❑ Use confidence language
- ❑ Guide and direct others in difficult situations
- ❑ Assess own biases/pre-judgments
- ❑ Develop strong decision-making
- ❑ Have clear values while being open and respectful
- ❑ Get imaginative and creative



Interprofessional practices... Confidence measures

- | | | |
|--|--|--|
| Social Service Workers <ul style="list-style-type: none"> ❑ No or low expectations ❑ Optimism ❑ Camaraderie ❑ Past experience ❑ Come prepared to offer options | Police Officers <ul style="list-style-type: none"> ❑ Quality training & practicing ❑ Controls environment (takes charge) ❑ Knows strengths & limitations ❑ Has police mentors ❑ Support system ❑ Camaraderie ❑ Appears credible and grounded | Global-Health Researchers <ul style="list-style-type: none"> ❑ Team member ❑ Use confidence language ❑ Guide and direct others in difficult situations ❑ Assess own biases/pre-judgments ❑ Strong decision-maker ❑ Clear values while open and respectful ❑ Imaginative and creative |
|--|--|--|

Goldsmith Plunkett University of Queen's University, 2013

Interprofessional collaboration: Operational tools... for police

Police Trainee Performance Indicators

- Knowledge & Application of the Law
- Verbal Communication
- Written Communication
- Knowledge of Police Service/Community
- Police Units
- Use of Force
- Police Vehicle Operations
- Compassion
- Self-Confidence
- Morale/Preparedness
- Focus/Reliance
- Take & Accept Feedback

Police Trainee

100% (100/100) (100/100) (100/100) (100/100) (100/100) (100/100) (100/100) (100/100) (100/100) (100/100)

Indicator	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Knowledge & Application of the Law											
Verbal Communication											
Written Communication											
Knowledge of Police Service/Community											
Police Units											
Use of Force											
Police Vehicle Operations											
Compassion											
Self-Confidence											
Morale/Preparedness											
Focus/Reliance											
Take & Accept Feedback											

Contribution... Conceptual and mathematical framework



Operational readiness/Resiliency... for any goal

My challenge: Himalayas, Nepal...
9 days UP & 6 days DOWN

Reaching the goal: Everest Base Camp
5,364 m / 17,598 ft

PhD by Published Work at uWestminster Operational readiness for high-risk professions

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=

Collaborative-partnership equation

Working Proactively with Publishers...

Collaborative-partnership development

COLLABORATIVE PARTNERSHIP DEVELOPMENT	
Author	Publisher
Credible research	Contract
Academic content	Permissions
Applied research	Formatting
Peer-review	Deadlines
Publication	Sales
PhD by Published Work?	
Partnership benefits?	
Trans-disciplinary	

Working Proactively with Publishers...

Collaborative-partnership development

Buy-in from Editor

- Find common grounds with mutual benefits
- Pitch to publisher
- Review contract by legal department
- Create a plan with deadlines and details
- Develop and sustain a relationship
... through COVID, etc.
- FULL STOP -----
- Understand and support each others' needs ("trans-disciplinary")
- (Author) Submits format-ready, permission-ready, on-time manuscript
- (Publisher) Delivers "final page proofs" with ISBN (etc.), on-time for examination

Working Proactively with Publishers...

Collaborative-partnership development

Contract amendments

- Special formatting considerations
– e.g., logos, colour
- Extend review timelines
- Access to "final page proofs"
– Examiner access only
- Holding-period post-viva

Collaborative case study...

Potential "template"

Template...

Process for publishers,
graduate schools and
PhD candidates



Kathryn's Experience

- From conversations on a sun lounger and Carluccios to a single authored research monograph!
- From a Google Scholar search: 'compassion, universities' to book chapter invitations
- Building a reputation with publishers and commissioning editors
- Networking with publishers and editors at conferences
- Single-authored books vs edited collections
- Getting to know what goes on 'on the other side'
– e.g. *Frontiers in Psychology*

7 Top Tips

1. Have motivation and purpose behind your writing.
2. Don't be afraid to pitch your idea for articles/books, and get feedback.
3. Build good relationships with editors, editorial assistants and production teams.
4. Deadlines can slip! Keep your publisher informed!
5. Ask, "How do I ...?" Qs in advance rather than correcting errors in your MS.
6. Participate in regular writing retreats to stay on track.
7. Have fun and celebrate little successes along the way.

Thank you