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ESSENTIAL

***E**volving **S**ecurity **SciencE** through **N**etworked
Technologies, **I**nformation policy **A**nd **L**aw*

EJD

WP 5 - Training Programme (Training)

LEAD PARTNER – P3 – University of Groningen

D5.4 - Fellows' Handbook for Working on a PhD

Contents

Introduction	4
1. Aim of the Handbook	4
2. Target group	4
3. Structure	5
Chapter 1 – Doing a PhD in the field of Security Science.....	6
Section 1 – Research in Security Science	6
Section 2 – General remarks on PhD research	6
Chapter 2 – Planning the PhD research.....	7
Section 1 – Identifying the topic.....	7
Section 2 – Structuring the research	7
Chapter 3 – Research Methodology.....	9
Section 1 – Introduction to research methodology.....	9
Section 2 – Quantitative Research Methods	9
Section 3 – Qualitative Research methods.....	9
Section 4 – Case studies research	10
Section 5 – Research methods in the field of security science.....	10
Chapter 4 – Writing the PhD Dissertation	11
Section 1 – Writing Techniques.....	11
Section 2 – Writing dissertations for non-native English Speakers.....	11
Chapter 5 – Communicating your research	12
Section 1 – Delivering a presentation.....	12
Section 2 – Data visualization	12
Section 3 – Defending your PhD	12
Section 4 – Publishing your PhD	12
Chapter 6 - PhD research and personal life	13
Section 1 – Doing a PhD while working	13
Section 2 – PhD research and parenting	13
Chapter 7 – Doctoral Supervision	14
Section 1 – Interaction between PhD candidates and supervisors	14
Section 2 – PhD supervision techniques.....	14
Useful resources.....	15
Conclusions	17



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Introduction

1. Aim of the Handbook

PhD studies are the highest level of education, and the road can be quite complex for many students. The aim of this handbook is to provide students in the area of security science a useful set of resources (key readings), which can assist them on their path towards doing their doctoral studies.

The doctoral journey is aimed to provide students with a wide array of skills, including the ability to present and speak publicly with ease, writing and communicating dissertations and journal articles, the ability to collect and analyse in a thorough and diverse ways different types of data, as well as the ability to teach – colleagues, students and the public. These are all topics, which this handbook addresses in depth in its various section.

Furthermore, the handbook goes beyond the skills associated with pursuing a PhD programme and tackles associated issues such as difficulties arising from lack of time in the case of individuals who work while doing their PhD or who are trying to combine PhD research with parenting.

This handbook is also aimed as a support for supervisors, as it includes key readings on PhD supervision and best ways of teaching research methods.

2. Target group

This handbook is for postgraduate research students and supervisors in the field of security science. It does not substitute PhD guidelines provided by the degree-awarding institutions themselves, but seeks to complement them.

3. Structure

The handbook is structured into 6 chapters. The first chapter provides a brief introduction into the specificities of carrying out research in the field of Security Science and provides general recommendations on successfully completing a PhD program. The second chapter deals with the process of planning the PhD research, namely the preliminary identification and organization of your research ideas. The third chapter addresses the issue of research methodology, providing useful sources of information on qualitative and quantitative research methods as well as research methodology specific to security studies. The fourth chapter deals with the challenges associated with writing a PhD dissertation, including the more specific problems encountered by non-native English speakers. Chapter five includes best practices in communicating research results, including data visualization methods and recommendations on transforming the PhD dissertation into a book. The sixth chapter focuses on additional problems, which may put pressure on students following their PhD such as the children or full-time employment. Lastly, chapter seven addresses the complexity of the student-supervisor relationship, also providing useful resources to supervisors of PhD theses.

Chapter 1 – Doing a PhD in the field of Security Science

Section 1 – Research in Security Science

Smith, Clifton & Brooks, Davis, Security Science. The Theory and Practice of Security, Elsevier, 2013.

Burgess, J. Peter, The Future of Security Research in the Social Sciences and Humanities, Discussion Paper Standing Committee for the Humanities (SCH), July 2014 available at http://archives.esf.org/fileadmin/Public_documents/Publications/future_security_research.pdf.

Dunn Cavelty, Myriam, Balzacq, Thierry, Routledge Handbook of Security Studies, Routledge, 2016.

Chen, Hsinchun, Yang, Christopher C. (Eds.), Intelligence and Security Informatics: Techniques and Applications, Springer, 2008.

Gheciu, Alexandra, Wohlforth, William C., The Oxford Handbook of International Security, Oxford University Press, 2018.

Section 2 – General remarks on PhD research

Booth, Wayne C., Colomb, Gregory G., Williams, Joseph M., The Craft of Research, Third Edition, The University of Chicago Press, 2008.

Karp, Jason, How to Survive Your PhD: The Insider's Guide to Avoiding Mistakes, Choosing the Right Program, Working with Professors, and Just How a Person Actually Writes a 200-Page Paper, Sourcebooks, 2009.

Petre, Marian, Rugg, Gordon, The Unwritten Rules of PhD Research, Open University Press, 2004.

Tanggaard, Lene, Wegener, Charlotte, A Survival Kit for Doctoral Students and Their Supervisors: Traveling the Landscape of Research 1st Edition, SAGE Publications, 2016.

Thomson, Pat, Walker, Melanie, The Routledge Doctoral Student's Companion: Getting to Grips with Research in Education and the Social Sciences, Routledge, 2010.

Chapter 2 – Planning the PhD research

Section 1 – Identifying the topic

Gray, Caroline & Malins, Julian, Visualizing Research. A Guide to the Research Process in Art and Design, Ashgate, 2004.

Davis, Don, "Ph.D. Thesis Research: Where do I Start?", Columbia University, 2001 available at <http://www.columbia.edu/~drd28/Thesis%20Research.pdf>.

Lantsoght, Eva, "How to Choose your Research Questions" available at <http://phdtalk.blogspot.com/2015/07/how-to-choose-your-research-question.html>.

Schlechter, Melissa J., "Passion and Strategy: Necessary Ingredients for Choosing a Thesis Topic", 2006 available at <https://www.psychologicalscience.org/observer/passion-and-strategy-necessary-ingredients-for-choosing-a-thesis-topic>.

McCulloch, Alistair; Guerin, Cally; Jayatilaka, Asangi; Calder, Paul; Ranasinghe, Damith, "Choosing to study for a PhD: A framework for examining decisions to become a research student", Higher Education Review . Spring2017, Vol. 49 Issue 2, p85-106. 22p.

Section 2 – Structuring the research

Wisker, Gina, The Postgraduate Research Handbook: Succeed with Your MA, MPhil, EdD and PhD, 2nd edition, Palgrave Macmillan, 2008.

Dunleavy, Patrick, Authoring a PhD: How to Plan, Draft, Write and Finish a Doctoral Thesis or Dissertation, Palgrave Macmillan, 2003.

Gosling, Patricia, Noordam, Lambertus D., Mastering Your PhD: Survival and Success in the Doctoral Years and Beyond, Springer, 2011.

Williams, Kate, Bethell, Emily, Lawton, Judith, Parfitt-Brown, Clare, Richardson, Mary, Rowe, Victoria, Planning your PhD, Palgrave Macmillan, 2010.

Evans, D. et al., "Chapter 2 – Thesis Structure" in How to Write a Better Thesis, Springer International Publishing Switzerland 2014, pp. 9-16.

Pain, Elisabeth, "How to write your Ph.D. thesis", April 2018 available at <https://www.sciencemag.org/careers/2018/04/how-write-your-phd-thesis>.

Sok & SKRIV, "Structuring a thesis", June 2018 available at <https://sokogskriv.no/en/writing/structure-and-argumentation/structuring-a-thesis/>.

Todd-Williamson, Cherie, "Putting the Thesis Together: Structure and Coherence", available at <https://www.massey.ac.nz/massey/fms/Research/Putting%20Thesis%20Together.pdf?D75C70AF7FCB91A66A8D522CAED06ACA>.

MacIntosh, Robert, "Structuring Your PhD - the three pillars of a thesis", May 2009 available at <http://doctoralstudy.blogspot.com/2009/05/structuring-your-phd-holy-trinity.html>.

Chapter 3 – Research Methodology

Section 1 – Introduction to research methodology

Aguado, N. Alexander, Teaching Research Methods: Learning by Doing, Journal of Public Affairs Education, JPAE 15(2): 251–260.

Kumar, Ranjit, Research Methodology 3rd edition, SAGE Publications, 2011.

Heath, Linda, Drake, Pat, Practitioner Research at Doctoral Level: Developing Coherent Research Methodologies, Routledge, 2011.

Section 2 – Quantitative Research Methods

Kaplan, David, The SAGE Handbook of Quantitative Methodology for the Social Sciences, SAGE Publications, 2004.

Vanderstoep, Scott. W., Johnston, Deirdre D., Research Methods for Everyday Life. Blending Qualitative and Quantitative Approaches, Jossey-Bass, 2009.

Gray, Paul S., The Research Imagination: An Introduction to Qualitative and Quantitative Methods 1st Edition, Cambridge University Press, 2007.

Teo, Timothy (ed.), Handbook of Quantitative Methods for Educational Research, Sense Publishers, 2013.

Gray, David E., Doing Research in the Real World Fourth Edition, SAGE Publications, 2018.

Section 3 – Qualitative Research methods

Durdella, Nathan R., Qualitative Dissertation Methodology: A Guide for Research Design and Methods 1st Edition, SAGE Publications, 2018.

Denzin, Norman K., Lincoln, Yvonna S. (eds.) Sage Handbook of Qualitative Research 4th edition, SAGE Publications, 2011.

Saldana, Johnny, The Coding Manual for Qualitative Researchers, SAGE Publications, 2012.

Bazeley, K. Jackson, *Qualitative Data analysis with NVivo*, SAGE Publications, 2013.

Creswell, John, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches Third Edition*, SAGE Publications, 2012.

Section 4 – Case studies research

Yin, Robert K., *Case Study Research and Applications: Design and Methods*, Sixth Edition, SAGE Publications, 2017.

Section 5 – Research methods in the field of security science

Edgar, Thomas W., Manz, David O., *Research Methods for Cyber Security*, 1st edition, Syngress, 2017.

Salter, Mark B., Mutlu, Can E., *Research Methods in Critical Security Studies. An introduction*. 1st edition, Routledge, 2012.

Bailey, Bill, "Case studies: A security science research methodology", Originally published in the Proceedings of the 4th Australian Security and Intelligence Conference, Edith Cowan University, Perth Western Australia, 5th -7th December, 2011 available at <https://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1009&context=asi>.

Chapter 4 – Writing the PhD Dissertation

Section 1 – Writing Techniques

Thomson, Pat, Kamler, Barbara, Detox Your Writing. Strategies for Doctoral Researchers, 1st Edition, Routledge, 2016.

Fine Clouse, Barbara, 265 Troubleshooting Strategies for Writing Nonfiction, McGraw-Hill Education; 1 edition, 2005.

Trowler, Paul, Writing Doctoral Project Proposals - 2nd Edition: Research into higher education (Doctoral research into higher education), CreateSpace Independent Publishing Platform, 2015.

Turabian, Kate L., A Manual for Writers of Research Papers, Theses, and Dissertations, University of Chicago Press, 2007.

Section 2 – Writing dissertations for non-native English Speakers

Glasman-Deal, Hillary, Science Research Writing. For Non-Native Speakers of English, Icp, 2009.



Chapter 5 – Communicating your research

Section 1 – Delivering a presentation

Professor Craig Valli, “Delivering a Presentation”, presentation delivered during the ESSENTIAL Summer School Florence 14-20 April 2018 (Annex 1).

Section 2 – Data visualization

Sue, Valerie M., Griffin, Matthew T., Data Visualization & Presentation With Microsoft Office, 1st Edition, SAGE Publications, 2015.

Evergreen, Stephanie, Presenting Data Effectively: Communicating Your Findings for Maximum Impact Second Edition, SAGE Publications, 2017.

Section 3 – Defending your PhD

Murray, Rowena, How to Survive your Viva. Defending a thesis in an oral examination, Open University Press, 2009.

Trafford, Vernon, Leshem, Shosh, Stepping Stones to Achieving Your Doctorate: Focusing on Your Viva from the start, Open University Press, 2008.

Section 4 – Publishing your PhD

Germano, William, From Dissertation to Book, 2nd edition, University of Chicago Press, 2005.

Caro, Sarah, How to Publish Your PhD, Oxford University Press, 2009.

Luey, Beth (Editor), Revising Your Dissertation, Updated Edition: Advice from Leading Editors First Edition, University of California Press, 2007.

“Turning your thesis into a book”, September 2013 available at <https://patthomson.net/2013/09/23/turning-your-thesis-into-a-book/>

Veletsianos George, Social Media and Academia: Networked Scholars, Routledge 2016.

Chapter 6 - PhD research and personal life

Section 1 – Doing a PhD while working

Newport, Cal, *Deep Work: Rules for Focused Success in a Distracted World*, Piatkus, 2016.

Gley, Jocelyn, *Manage Your Day-to-Day: Build Your Routine, Find Your Focus, and Sharpen Your Creative Mind*, Amazon Publishing, 2013.

Section 2 – PhD research and parenting

Evans, Elrena, Grant, Caroline, *Mama, PhD: Women Write about Motherhood and Academic Life*, Rutgers University Press, 2006.

Workman, Annabelle, ““P” is for PhD ...and Parenting”, January 2018 available at <https://phdlife.warwick.ac.uk/2018/01/31/p-is-for-phd-and-parenting/>.

Gallacher, Grace, *Mission Impossible? Parenting and my PhD*, October 2017 available at <https://www.blogs.hss.ed.ac.uk/pubs-and-publications/2017/10/06/mission-impossible-parenting-phd/>.

“The perils of PhD parenting” August 2011 available at <https://thesiswhisperer.com/2011/08/02/the-perils-of-phd-parenting/>.

Chapter 7 – Doctoral Supervision

Section 1 – Interaction between PhD candidates and supervisors

Phillips, Estelle M., Pugh Derek S., How to Get a PhD: A Handbook for Students and Their Supervisors, Open University Press, 2010, pp. 108-126.

Section 2 – PhD supervision techniques

Taylor, Stan, Kiley, Margaret, Humphrey, Robin, A Handbook for Doctoral Supervisors, 2nd edition, Routledge, 2018.

Useful resources

General recommendations on PhD writing

The Thesis Whisperer blog - <https://thesiswhisperer.com/>

Writing Clear Science blog - www.writingclearscience.com.au

100thousandwords blog - <https://100thousandwords.wordpress.com/2012/08/31/how-to-select-a-phd-research-topic/>

Academic write blog - <https://academicswrite.ca/blog/>

Beyond the Doctorate blog - <http://beyondthedoctorate.blogspot.com/>

Dan Cohen blog - <https://dancohen.org/>

Diary of Dr. Logic blog - <http://diaryofdoctorlogic.blogspot.com/>

Catherine Pope blog - <https://catherinepope.com/>

Explorations of Style blog - <https://explorationsofstyle.com/>

Patter blog - <https://explorationsofstyle.com/>

PhD Talk - <http://phdtalk.blogspot.com/>

PLOS ECR Community forum - <https://blogs.plos.org/thestudentblog/>

Scientist Sees Squirrel blog - <https://scientistseessquirrel.wordpress.com/>

Surviving Science blog - <https://survivingscience.com/>

The Mad Scientist Confectioner's Club blog - <http://jasonya.com/wp/>

On security research

<https://researchingsecurity.org>

Krebs on Security at <https://krebsonsecurity.com/>

Social Science blog at <https://blogs.bl.uk/socialscience/research-methods/>

Schneier on Security blog at www.schneier.com/



Conclusions

The aim of this deliverable is to provide a useful, but by no means comprehensive, set of resources aimed at helping both students and supervisors achieve better results in the long journey of doctoral studies. The handbook addresses a wide diversity of issues from techniques aimed at helping students achieve a better time management to detailed descriptions of research methods. The key readings included in the handbook are both classical readings in the field and very up to date articles, which together are meant to provide readers with a comprehensive image of challenges and solutions associated with carrying out PhD research.