

University of Groningen

## Apathy, fatigue and quality of life in patients with Parkinson's disease

Skorvanek, Matej

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*

Publisher's PDF, also known as Version of record

*Publication date:*

2014

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Skorvanek, M. (2014). *Apathy, fatigue and quality of life in patients with Parkinson's disease*. [Thesis fully internal (DIV), University of Groningen]. [S.n.].

**Copyright**

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

**Take-down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

**Apathy, fatigue and quality of life in patients  
with Parkinson's disease**

**Matej Skorvanek**

Copyright:

© Matej Škorvánek

© Springer (chapter 5)

© SAGE publications (chapter 6)

© John Wiley & Sons (chapter 7)

Thesis for the University of Groningen, the Netherlands – with summary in Dutch and Slovak.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the author.

Correspondence:

Matej Škorvánek

mskorvanek@gmail.com

This work was supported by the Slovak Research and Development Agency under contract APVV-0220-10 (80%). Furthermore, this work was partially supported by the Agency of the Slovak Ministry of the Education, Science, Research and Sport of the Slovak Republic for the Structural Funds of the EU under project no. ITMS: 26220120058 (20%)

The printing of this thesis was supported by the Graduate School for Health Research (SHARE), the Graduate School Kosice Institute for Society and Health (KISH), University Medical Center Groningen (UMCG) and the University of Groningen (RUG).

Design and layout: Klaudia Jutkova

Book cover: Klaudia Jutkova

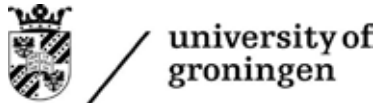
Language proof: David L McLean

Press: EQUILIBRIA, s.r.o.

Printed in the Slovak Republic

ISBN: 978-90-367-7490-1

ISBN: (electronic version) 978-90-367-7488-8



# Apathy, fatigue and quality of life in patients with Parkinson's disease

PhD thesis

ter verkrijging van de graad van doctor aan de  
Rijksuniversiteit Groningen  
op gezag van de  
rector magnificus prof. dr. E. Sterken  
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op  
maandag 8 december 2014 om 16:15 uur

door

**Matej Skorvanek**

geboren op 30 april 1984  
te Kosice, Slowakije

*Promotores*

Prof. dr. J.W. Groothoff  
Prof. dr. Z. Gdovina

*Copromotores*

Dr. J.P. van Dijk  
Dr. J. Rosenberger

*Beoordelingscommissie*

Prof. Dr. P. De Deyn  
Prof. dr. M.A.J. de Koning-Tijssen  
Prof. dr. S.A. Reijneveld  
Prof. dr. J. Roth

# Contents

<b>Chapter 1</b> Introduction	7
<b>Chapter 2</b> Data sources, measures and statistical analyses	25
<b>Chapter 3</b> Validation of Slovak version of the Movement Disorder Society – Unified Parkinson’s Disease Rating Scale (MDS-UPDRS)	31
<b>Chapter 4</b> Importance of the non-motor items of the MDS-UPDRS for Quality of Life in patients with Parkinson’s disease	43
<b>Chapter 5</b> Clinical determinants of primary and secondary fatigue in patients with Parkinson’s disease	55
<b>Chapter 6</b> Apathy in elderly non-demented patients with Parkinson’s disease: clinical determinants and relationship to quality of life	69
<b>Chapter 7</b> The associations between fatigue, apathy, and depression in Parkinson’s disease	83
<b>Chapter 8</b> Discussion	97
<b>Summary</b>	113
<b>Samenvatting</b>	117
<b>Zhrnutie</b>	121
<b>Acknowledgments</b>	125
<b>About the author</b>	127
<b>Graduate School Kosice Institute for Society and Health (KISH) and previous dissertations</b>	129
<b>Groningen Graduate School of Medical Sciences – Research Institute SHARE and previous dissertations</b>	133

