

University of Groningen

Understanding childlessness

Verweij, Renske

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:

2019

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

Citation for published version (APA):

Verweij, R. (2019). Understanding childlessness: Unravelling the link with genes and socio-environment. [Groningen]: Rijksuniversiteit Groningen.

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).

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.

Understanding childlessness

Unravelling the link with genes and the socio-environment

Renske Marianne Verweij

Cover illustration: Sjoerd van der Zee, www.sjoerdvanderzee.nl
Layout and design: Jornt van Dijk, persoonlijkproefschrift.nl
Printing: Ridderprint BV | www.ridderprint.nl

ISBN (print): 978-94-6375-243-5
ISBN (digital): 978-94-6375-244-2

© 2019 Renske Verweij

All Rights Reserved. No part of this publication may be reproduced in any form or by any means, including scanning, photocopying, or otherwise without prior written permission of the copyright holder.



**rijksuniversiteit
groningen**

Understanding childlessness

Unravelling the link with genes and
the socio-environment

Proefschrift

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
donderdag 31 januari 2018 om 12.45 uur

door

Renske Marianne Verweij

geboren op 8 augustus 1989
te Groningen

Promotores

Prof. dr. M.C. Mills

Prof. dr. H. Snieder

Copromotor

Dr. G. Stulp

Beoordelingscommissie

Prof. dr. D.C. Conley

Prof. dr. P.A. Dykstra

Prof. dr. A.C. Liefbroer

CONTENTS

CHAPTER 1 Synthesis	9
1.1 Why should we study childlessness?	10
1.2 Consequences of remaining childless	13
1.3 Social factors underlying childlessness	15
1.4 Childbearing from a biomedical and sociogenomic perspective	28
1.5 Directions for future research	38
1.6 Conclusions	43
CHAPTER 2 Can fertility desires and expectations explain the association of education and occupation with childlessness?	45
2.1 Introduction	47
2.2 Background and hypothesis	48
2.3 Data, measures and analytical strategy	54
2.4 Results	59
2.5 Conclusion and discussion	66
Tables chapter 2	70
2.6 Supplementary material chapter 2	76
2.7 Additional investigation: The relationship between education and childlessness desires and outcomes replicated in the Netherlands with LISS	98
2.8 Additional investigation: The relationship between education and occupation with childlessness desires and outcomes replicated among men in the NLSY	101
CHAPTER 3 Planning and postponement of parenthood in the Netherlands	105
3.1 Introduction	107
3.2 Theory	109
3.3 Methods	115
3.4 Results	122
3.5 Conclusion	129
Tables chapter 3	133
3.6 Supplementary material chapter 3	148

CHAPTER 4 Sexual dimorphism in the genetic influence on human childlessness*	159
4.1 Introduction	161
4.2 Materials and methods	162
4.3 Results	166
4.4 Discussion	169
Tables chapter 4	173
4.5 Supplementary material chapter 4	176
CHAPTER 5 A sociogenomic approach to childlessness: Using multiple polygenic risk scores and socio-demographic factors to explain childlessness	187
5.1 Introduction	189
5.2 Conceptual model and expectations	190
5.3 Materials and Method	195
5.4 Results	198
5.5 Discussion	200
Tables chapter 5	204
5.6 Supplementary material chapter 5	214
References	239
Nederlandse samenvatting (Summary in Dutch)	261
Dankwoord (Acknowledgements)	267
About the author	273
ICS dissertation series	277

