



Universiteit
Leiden
The Netherlands

What Box?': behavioral, neuro-imaging, and training studies on the development of creative cognition in adolescence

Kleibeuker, S.W.

Citation

Kleibeuker, S. W. (2016, January 9). *What Box?': behavioral, neuro-imaging, and training studies on the development of creative cognition in adolescence*. Retrieved from <https://hdl.handle.net/1887/37815>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/37815>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/37815> holds various files of this Leiden University dissertation.

Author: Kleibeuker, Sietske Willemijn

Title: 'What Box?': behavioral, neuro-imaging, and training studies on the development of creative cognition in adolescence

Issue Date: 2016-02-09

‘What box?’

Behavioral, neuro-imaging, and training studies on the
development of creative cognition in adolescence

Sietske W. Kleibeuker

Kleibeuker, Sietske W.

'What box?': Behavioral, neuro-imaging, and training studies on the development of creative cognition in adolescence

Copyright © Sietske W. Kleibeuker, 2016

Cover design: Sietske W. Kleibeuker, 1994

Print & Layout: VdR druk & print

ISBN/EAN: 978-90-9029528-2

‘What box?’

Behavioral, neuro-imaging, and training studies on the
development of creative cognition in adolescence

PROEFSCHRIFT

Ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens het besluit van het College voor Promoties
te verdedigen op dinsdag 9 februari 2016
klokke 13:45 uur

door

Sietske Willemijn Kleibeuker

geboren te Rotterdam

in 1979

PROMOTIECOMMISSIE

Promotoren

Prof. dr. E.A. Crone

Prof. dr. C.K.W. De Dreu

Overige leden

Dr. M. Baas, Universiteit van Amsterdam

Prof. dr. S. Durston, Universiteit Utrecht

Prof. dr. M.E.J. Raijmakers, Universiteit Leiden

Contents

| | | |
|---|--|-----|
| 1 | General introduction | 7 |
| 2 | The development of creative cognition across adolescence: distinct trajectories for insight and divergent thinking | 17 |
| 3 | Prefrontal cortex involvement in creative problem solving in middle adolescence and adulthood | 37 |
| 4 | The neural coding of creative idea generation across adolescence and early adulthood..... | 59 |
| 5 | Training creative cognition: Adolescence as a flexible period for improving creativity | 87 |
| 6 | Training in the adolescent brain: an fMRI training study on divergent thinking | 119 |
| 7 | General Discussion | 143 |
| | References | 155 |
| | Nederlandse Samenvatting | 173 |
| | Publications | 183 |
| | Curriculum vitae | 185 |
| | Acknowledgments | 187 |

