



Universiteit
Leiden
The Netherlands

Emotions in the social world: recognition, expression, and alignment across the lifespan

Riddell, C.D.

Citation

Riddell, C. D. (2025, September 16). *Emotions in the social world: recognition, expression, and alignment across the lifespan*. Retrieved from <https://hdl.handle.net/1887/4261221>

Version: 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/1887/4261221>

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

Emotions in the social world:
Recognition, expression, and alignment
across the lifespan

Christopher Riddell

Colofon

The research featured in this thesis was funded by the European Research Council (ERC), in the form of a Starting Grant (#804582) awarded to Mariska E. Kret.

Copyright 2025, Christopher Riddell, Amsterdam, the Netherlands.

ISBN/EAN: 978-90-835486-9-2

Artist impressions: Yuval Danon

Layout/design inside: Ferdinand van Nispen, *my-thesis.nl*

Printed by: proefschriftenprinten.nl, Ede

Emotions in the social world:
Recognition, expression, and alignment
across the lifespan

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 16 september 2025
klokke 14.30 uur
door

Christopher David Riddell
geboren te Melbourne
in 1993

Promotor:

Prof.dr. Mariska. E. Kret

Co-Promotor:

Dr. Milica Nikolić

Promotiecommissie:

Prof.dr. Hanneke Hulst (Wetenschappelijk Directeur Instituut Psychologie/Voorzitter)

Prof.dr. Zanna Clay (Durham University)

Prof.dr. Anna van Duijvenvoorde

Prof.dr. Peter Bos

Dr. Disa Sauter (Universiteit van Amsterdam)

Dr. Evin Aktar

Table of Contents

Chapter 1	General Introduction	9
	Basic vs. Non-Basic Emotions	12
	Components of Emotions	14
	Emotion Production and Perception Across Human Development	16
	Intrapersonal and Interpersonal Functions of Emotion	17
	(Autonomic) Mimicry and Prosociality in Human and Nonhuman Animals	19
	Outline of the Dissertation	21
Chapter 2	Age-Related Changes in Emotion Recognition Across Childhood: A Meta-Analytic Review	27
	Abstract	28
	Method	40
	Statistical Analysis	46
	Results	49
	Discussion	62
Chapter 3	Cross-Cultural Emotions Reconsidered: The Spontaneous Production of Emotions Across Age in Japan and the Netherlands	75
	Abstract	76
	Methods	80
	Results	88
	Discussion	95
Chapter 4	Putting the Social in Emotions: The Effect of Audience Presence on Pride and Embarrassment Across Ontogeny	103
	Abstract	104
	Method	110
	Materials	114
	Results	118
	Discussion	122

Chapter 5	Emotions in Sync: The Effect of Emotional Synchrony on Children and Adults' Cooperation and Interpersonal Liking in Face-to-Face Interactions	131
	Abstract	132
	Method	136
	Results	145
	Discussion	150
Chapter 6	Play Face Mimicry Across Species: Comparative Insights from Human Infants, Adults, and Orangutans	157
	Abstract	158
	Method	165
	Results	173
	Discussion	179
Chapter 7	Fearful Apes, Happy Apes: Is Fearfulness Associated with Uniquely Human Cooperation?	187
	Abstract	188
Chapter 8	General Discussion	193
	Theoretical Implications	195
Bibliography		209
Appendices		237
	Summary	238
	Samenvatting	243
	Acknowledgement	247
	Curriculum Vitae	255
	List of Publications	254