



# TABLE OF CONTENTS

Acknowledgements .....	i
Abstract .....	iii
Tables .....	vi
Figures .....	vii
Abbreviations .....	viii
Introduction .....	1
<b>PART I: THEORETICAL BACKGROUND .....</b>	<b>5</b>
<b>1 Risk and protective factors in adaptive child development .....</b>	<b>6</b>
1.1 Early child behavior problems.....	7
1.2 Developmental cascades .....	9
1.3 Positive child characteristics .....	10
1.4 Summary.....	12
1.5 Contextual risk and protective factors .....	13
1.5.1 Home environment.....	14
1.5.2 School environment .....	17
1.5.3 Summary .....	18
<b>2 Biological Embedding .....</b>	<b>19</b>
2.1 Allostasis .....	19
2.2 Hypothalamic-Pituitary-Adrenal Axis.....	21
2.3 Cortisol in child development.....	22
2.3.1 Nail structure and growth.....	23
2.3.2 Nail cortisol concentrations .....	25
2.3.3 Cortisol and child behavior problems .....	28
2.3.4 Cortisol and parental sensitivity.....	30
2.3.5 Cortisol in early intervention studies .....	31
2.3.6 Summary .....	33



2.4	FKBP5 methylation in child development .....	34
2.4.1	The DNA.....	34
2.4.2	Epigenetics.....	35
2.4.3	Methylation.....	35
2.4.4	FKBP5 methylation .....	36
2.4.5	Methylation and child behavior problems .....	37
2.4.6	Methylation and parental sensitivity.....	39
2.4.7	Methylation in intervention studies .....	40
2.4.8	Summary.....	41
<b>3</b>	<b>Conclusions, research questions, and hypotheses .....</b>	<b>43</b>
	<b>PART II: EMPIRICAL STUDIES .....</b>	<b>45</b>
<b>4</b>	<b>The influence of contextual risk and protective factors on adaptive child behavior in preschoolers .....</b>	<b>46</b>
4.1	Introduction .....	46
4.1.1	Adaptive child behavior.....	46
4.1.2	Contextual risk and protective factors .....	47
4.2	Methods .....	49
4.2.1	Participants and procedure.....	49
4.2.2	Measures .....	50
4.2.3	Data analysis .....	52
4.3	Results .....	53
4.4	Discussion.....	58
<b>5</b>	<b>FKBP5 methylation in toddlers at risk: associations with parental sensitivity, child behavior problems, and early intervention.....</b>	<b>63</b>
5.1	Introduction .....	63
5.1.1	FKBP5 methylation and childhood adversities.....	64
5.1.2	FKBP5 methylation and child behavior.....	65
5.1.3	FKBP5 methylation in intervention studies.....	65



5.2	Method.....	66
5.2.1	Participants and procedure .....	66
5.2.2	Intervention .....	68
5.2.3	Parental sensitivity .....	68
5.2.4	Child behavior problems.....	69
5.2.5	FKBP5 methylation .....	69
5.2.6	Nail cortisol concentrations .....	70
5.2.7	Covariates .....	70
5.2.8	Statistical analysis .....	71
5.3	Results .....	71
5.3.1	Descriptive statistics .....	71
5.3.2	FKBP5 methylation and NNC .....	72
5.3.3	Parental sensitivity and FKBP5 methylation .....	73
5.3.4	Parental sensitivity and NCC.....	73
5.3.5	FKBP5 methylation and child behavior problems.....	74
5.3.6	Effects of PAT on FKBP5 methylation and NCC .....	75
5.4	Discussion.....	76
<b>PART III: GENERAL DISCUSSION.....</b>		<b>83</b>
<b>6</b>	<b>Summary of Findings .....</b>	<b>84</b>
<b>7</b>	<b>Discussion and Integration of Findings.....</b>	<b>86</b>
<b>8</b>	<b>Strengths and Limitations .....</b>	<b>93</b>
<b>9</b>	<b>Outlook, Implications, and Conclusions .....</b>	<b>97</b>
<b>10</b>	<b>References.....</b>	<b>99</b>