

# Table of contents

<b>TABLE OF CONTENTS</b>	<b>III</b>
<b>ABBREVIATIONS</b>	<b>VI</b>
<b>INDEX OF FIGURES AND TABLES</b>	<b>IX</b>
<b>1 INTRODUCTION AND OUTLINE OF THE THESIS</b>	<b>1</b>
<b>References</b>	<b>6</b>
<b>2 THEORETICAL BACKGROUND</b>	<b>7</b>
<b>2.1 Stress</b>	<b>8</b>
2.1.1 The definition of stress	8
2.1.2 Stress at work - a problem of modern society	10
<b>2.2 Possible psychological consequences of chronic work stress</b>	<b>14</b>
2.2.1 Burnout	14
2.2.2 Vital exhaustion	20
2.2.3 The relationship of burnout, vital exhaustion and depression	21
<b>2.3 The physiology of the stress response</b>	<b>23</b>
2.3.1 The hypothalamus-pituitary-adrenal (HPA) axis	23
2.3.2 The locus coeruleus/norepinephrine autonomic system	27
<b>2.4 Assessment of basal HPA axis regulation, feedback mechanisms and HPA axis reactivity</b>	<b>28</b>
2.4.1 Measuring basal HPA axis regulation: Cortisol awakening rise and day profiles	29
2.4.2 Testing feedback sensitivity of the HPA axis: The Dexamethasone Suppression Test	33
2.4.3 Testing HPA axis reactivity under acute stress: The Trier Social Stress Test	34
<b>2.5 HPA axis dysregulation in burnout and vital exhaustion</b>	<b>37</b>
<b>2.6 Allostatic load</b>	<b>49</b>
<b>2.7 Teacher stress</b>	<b>55</b>
<b>References</b>	<b>58</b>
<b>3 CORTISOL DYSREGULATION IN SCHOOL TEACHERS IN RELATION TO BURNOUT, VITAL EXHAUSTION AND EFFORT-REWARD-IMBALANCE</b>	<b>73</b>

<b>3.1 Abstract</b>	<b>74</b>
<b>3.2 Introduction</b>	<b>75</b>
<b>3.3 Methods</b>	<b>78</b>
3.3.1 Participants and general experimental outline	78
3.3.2 Psychological assessment	79
3.3.3 Saliva collection	81
3.3.4 Cortisol analysis	82
2	
<b>3.4 Results</b>	<b>84</b>
3.4.1 Study sample	84
3.4.2 Basal HPA axis activity: Cortisol day profiles on work and leisure days	86
3.4.3 HPA axis feedback sensitivity: The Dexamethasone Suppression Test	87
<b>3.5 Discussion</b>	<b>91</b>
<b>References</b>	<b>97</b>
<b>4 CHRONIC WORK STRESS AND EXHAUSTION ARE ASSOCIATED WITH HIGHER ALLOSTATIC LOAD IN FEMALE SCHOOL TEACHERS</b>	<b>102</b>
<b>4.1 Abstract</b>	<b>103</b>
<b>4.2 Introduction</b>	<b>104</b>
<b>4.3 Methods</b>	<b>107</b>
4.3.1 Participants and general experimental outline	107
4.3.2 Psychological assessment	108
4.3.3 Allostatic load	109
4.3.4 Biochemical analysis	110
4.3.5 Statistical analysis	112
<b>4.4 Results</b>	<b>112</b>
4.4.1 Study sample	112
4.4.2 Allostatic load	114
<b>4.5 Discussion</b>	<b>120</b>
<b>References</b>	<b>126</b>
<b>5 EFFORT-REWARD-IMBALANCE AND OVERCOMMITMENT ARE ASSOCIATED WITH HYPOTHALAMUS-PITUITARY-ADRENAL (HPA) AXIS RESPONSES TO ACUTE PSYCHOSOCIAL STRESS IN HEALTHY WORKING SCHOOL TEACHERS</b>	<b>131</b>
<b>5.1 Abstract</b>	<b>132</b>

<b>5.2 Introduction</b>	<b>133</b>
<b>5.3 Methods</b>	<b>136</b>
5.3.1 Participants and general experimental outline	136
5.3.2 Experimental protocol	136
5.3.3 Blood and saliva sampling	136
5.3.4 Hormonal analysis	137
5.3.5 Psychological assessment	138
<b>5.4 Statistical analysis</b>	<b>139</b>
<b>5.5 Results</b>	<b>141</b>
5.5.1 Study sample	141
5.5.2 Analysis in the total study sample	142
5.5.3 Analysis in the subsample of responders	142
5.5.4 Analysis of the role of acute perceived stressfulness	146
<b>5.6 Discussion</b>	<b>146</b>
<b>References</b>	<b>152</b>
<b>6 SUMMARY AND GENERAL DISCUSSION</b>	<b>156</b>
<b>References</b>	<b>168</b>