# Contents

1 Introduction  
1.1 Overview of the theoretical background .................. 3  
1.2 Research objectives ................................... 6  

2 Theoretical Background on Gender Leadership Stereotypes  
2.1 Basic terms and definitions .............................. 10  
  2.1.1 Stereotypes ...................................... 11  
  2.1.2 Gender ......................................... 13  
  2.1.3 Gender stereotypes ................................ 14  
2.2 Basic theories on gender stereotypes ...................... 18  
  2.2.1 Social role theory ................................ 19  
  2.2.2 Stereotype content model .......................... 24  
2.3 Gender stereotypes in the leadership context .......... 29  
  2.3.1 Think-manager-think-male phenomenon ............. 30  
  2.3.2 Leadership styles ................................ 35  
  2.3.3 Backlash Effect .................................. 38  

3 Theoretical Background on Styling in the Context of Gender Leadership Stereotypes  
3.1 Styling ..................................................... 45  
  3.1.1 Terms and definitions ............................... 46  
  3.1.2 History of fashion .................................. 47
3.1.3 The career guides’ view on styling ....................... 51
3.2 Influence of biological aspects .............................. 53
3.3 Influence of Styling ............................................ 59
   3.3.1 General influences .................................... 59
   3.3.2 Gender leadership stereotypes related influences .... 61
3.4 Summary and Research Questions of Study 1 ............... 64

4 Study 1: Styling Elements in Photos ......................... 70
   4.1 Method ...................................................... 70
      4.1.1 Design ................................................. 70
      4.1.2 Participants ......................................... 71
      4.1.3 Stimulus material ................................... 71
      4.1.4 Measures ............................................. 73
      4.1.5 Procedure ........................................... 78
      4.1.6 General evaluation of the styling ................... 78
      4.1.7 General attitude towards female leaders ............ 83
   4.2 Results .................................................... 84
      4.2.1 Competence ......................................... 84
      4.2.2 Warmth ............................................... 85
      4.2.3 Likelihood of getting hired ......................... 86
      4.2.4 Gender of the evaluators ............................ 86
      4.2.5 Masculinity and femininity of the styling .......... 86
   4.3 Discussion .................................................. 91
      4.3.1 Effects caused by styling elements ................. 91
      4.3.2 Effects caused by the masculinity/femininity of the styling . 93
      4.3.3 Limitations and outlook ............................. 97
      4.3.4 Conclusion ........................................... 99

5 Additional Theoretical Background to Study 2 ............... 100
   5.1 Basic terms and definitions .............................. 102
      5.1.1 Immersive virtual environments ...................... 102
      5.1.2 Agents and avatars .................................. 104
   5.2 IVET in comparison to other media types .................. 106
5.3 Presence, co-presence, and social presence .......................... 107
  5.3.1 Presence ......................................................... 108
  5.3.2 Social presence and co-presence ............................... 109
5.4 Measuring presence .................................................. 111
5.5 Research questions .................................................. 112

6 Study 2: The IVE Medium Versus a Video ............................... 115
  6.1 Method ............................................................ 115
    6.1.1 Participants .................................................. 115
    6.1.2 Experimental design and independent variables .............. 115
    6.1.3 Apparatus ..................................................... 116
    6.1.4 Dependent variables ........................................ 116
    6.1.5 Procedure .................................................... 120
  6.2 Results ............................................................ 121
    6.2.1 Perceived sense of presence ................................ 121
    6.2.2 Memory performance ........................................ 121
    6.2.3 Evaluation of the virtual agent .............................. 122
    6.2.4 Influence of presence, social presence, and co-presence . 124
  6.3 Discussion ........................................................ 124
    6.3.1 Evaluation of the agent ..................................... 125
    6.3.2 Presence ....................................................... 125
    6.3.3 Influence of presence, social presence, and co-presence . 127
    6.3.4 Limitations and perspectives ................................ 127
    6.3.5 Conclusion ..................................................... 128

7 Additional Theoretical Background to Study 3 .......................... 130
  7.1 IVET studies on stereotypes ....................................... 131
  7.2 IVET studies on gender stereotypes ................................ 132
  7.3 IVET studies on gender leadership stereotypes ................... 133
  7.4 Hypotheses and research questions ................................ 136

8 Study 3: Styling Elements in an Interaction with a Virtual Agent .... 140
  8.1 Method ............................................................ 140
    8.1.1 Experimental design and participants ....................... 140
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1.6 Dependent measures</td>
<td>190</td>
</tr>
<tr>
<td>10.2 Results</td>
<td>192</td>
</tr>
<tr>
<td>10.2.1 Influence of participants’ gender</td>
<td>192</td>
</tr>
<tr>
<td>10.2.2 Assertiveness of participants</td>
<td>194</td>
</tr>
<tr>
<td>10.2.3 Competence and warmth of the self</td>
<td>195</td>
</tr>
<tr>
<td>10.2.4 Likeability and arrogance of the self</td>
<td>196</td>
</tr>
<tr>
<td>10.2.5 Attitude toward female leaders</td>
<td>196</td>
</tr>
<tr>
<td>10.2.6 Long term effects</td>
<td>198</td>
</tr>
<tr>
<td>10.2.7 Comparison of the self, the negotiation partner, and the female leaders</td>
<td>199</td>
</tr>
<tr>
<td>10.3 Discussion</td>
<td>202</td>
</tr>
<tr>
<td>10.3.1 Effects in line with expected Proteus effects</td>
<td>203</td>
</tr>
<tr>
<td>10.3.2 Effects not in line with the Proteus assumption</td>
<td>205</td>
</tr>
<tr>
<td>10.3.3 Effects caused by gender</td>
<td>207</td>
</tr>
<tr>
<td>10.3.4 Limitations and outlook</td>
<td>208</td>
</tr>
<tr>
<td>10.3.5 Conclusion</td>
<td>210</td>
</tr>
<tr>
<td>11 General Discussion</td>
<td>212</td>
</tr>
<tr>
<td>11.1 Summaries of the four studies</td>
<td>214</td>
</tr>
<tr>
<td>11.1.1 Summary of Study 1</td>
<td>214</td>
</tr>
<tr>
<td>11.1.2 Summary of Study 2</td>
<td>216</td>
</tr>
<tr>
<td>11.1.3 Summary of Study 3</td>
<td>218</td>
</tr>
<tr>
<td>11.1.4 Summary of Study 4</td>
<td>220</td>
</tr>
<tr>
<td>11.2 Research objectives on styling in the context of gender leadership stereotypes</td>
<td>223</td>
</tr>
<tr>
<td>11.2.1 Objective 1: The effect of different styling elements on the evaluation of female leaders with regard to their leadership abilities</td>
<td>224</td>
</tr>
<tr>
<td>11.2.2 Objective 2: The effect of different styling elements on backlash towards a female leader</td>
<td>228</td>
</tr>
<tr>
<td>11.2.3 Combining Research Objectives 1 and 2</td>
<td>230</td>
</tr>
<tr>
<td>11.2.4 Objective 3: The role of participants’ gender</td>
<td>231</td>
</tr>
</tbody>
</table>
11.3 Research objectives on the IVE as a method for examining gender stereotypes .................................................. 233
11.3.1 Objective 4: The effect of an IVE in comparison to a video recording of the virtual content .............................. 234
11.3.2 Objective 5: The added value of objective and/or behavioral measures opposed to solely using self-rating data .... 235
11.4 Limitations and future research ............................................. 238
11.5 Suggestions for future research: Examining stereotypes comprehensively ......................................................... 241
11.6 Conclusion ........................................................................ 245

Bibliography .......................................................................... 247