## ONLINE APPENDIX

### Table S-1

Keywords and Search Terms

<table>
<thead>
<tr>
<th>Genetics</th>
<th>Physiology</th>
<th>Neuroscience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>✓ Biology and ✓ Biology and business</td>
<td>✓ Biology and business, ✓ Neuroscience and business</td>
</tr>
<tr>
<td></td>
<td>✓ business</td>
<td>✓ Hormone and business</td>
</tr>
<tr>
<td></td>
<td>✓ Gene and business</td>
<td>✓ Testosterone and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ Dopamine and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ Cortisol and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ Oxytocin and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ Serotonin and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ Physiology and business</td>
</tr>
<tr>
<td>Management</td>
<td>✓ Biology and ✓ Biology and management</td>
<td>✓ Biology and management</td>
</tr>
<tr>
<td></td>
<td>✓ management</td>
<td>✓ Hormone and management</td>
</tr>
<tr>
<td></td>
<td>✓ Gene and ✓ Testosterone and management</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Biology and management</td>
<td>Cortisol and management</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Gene and leadership</td>
<td>Testosterone and leadership</td>
<td>Dopamine and leadership</td>
</tr>
<tr>
<td></td>
<td>Physiology and leadership</td>
<td>Biology and leadership</td>
</tr>
</tbody>
</table>

<p>| Entrepreneurship | Biology and entrepreneurship | Hormone and entrepreneurship | Testosterone and entrepreneurship |
| Gene and entrepreneurship | Dopamine and leadership | Cortisol and leadership | Oxytocin and leadership | Serotonin and leadership | Physiology and leadership | Biology and entrepreneurship | Neuroscience and entrepreneurship |</p>
<table>
<thead>
<tr>
<th>Organizational Behavior</th>
<th>✓ Biology and Organizational Behavior</th>
<th>✓ Biology and Organizational Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Behavior</td>
<td>✓ Hormone and Organizational Behavior</td>
<td>✓ Testosterone and Organizational Behavior</td>
</tr>
<tr>
<td>Gene and Organizational Behavior</td>
<td>✓ Dopamine and Organizational Behavior</td>
<td>✓ Cortisol and Organizational Behavior</td>
</tr>
<tr>
<td>Gene and Organizational Behavior</td>
<td>✓ Oxytocin and Organizational Behavior</td>
<td>✓ Oxytocin and Organizational Behavior</td>
</tr>
<tr>
<td>Gene and Organizational Behavior</td>
<td>✓ Serotonin and Organizational Behavior</td>
<td>✓ Serotonin and Organizational Behavior</td>
</tr>
<tr>
<td>Gene and Organizational Behavior</td>
<td>✓ Physiology and Organizational Behavior</td>
<td>✓ Physiology and Organizational Behavior</td>
</tr>
<tr>
<td>Strategy</td>
<td>✓ Biology and Strategy</td>
<td>✓ Biology and Strategy</td>
</tr>
<tr>
<td>Strategy</td>
<td>✓ Hormone and Strategy</td>
<td>✓ Hormone and Strategy</td>
</tr>
<tr>
<td>Gene and Strategy</td>
<td>✓ Testosterone and Strategy</td>
<td>✓ Testosterone and Strategy</td>
</tr>
<tr>
<td>Occupational Health and Safety</td>
<td>Biology and Occupational Health and Safety</td>
<td>Biology and Occupational Health and Safety</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>✓</td>
<td>✓ Biology and Occupational Health and Safety</td>
<td>✓ Hormone and Occupational Health and Safety</td>
</tr>
<tr>
<td>✓ Gene and Occupational Health and Safety</td>
<td>✓ Dopamine and Occupational Health and Safety</td>
<td>✓ Cortisol and Occupational Health and Safety</td>
</tr>
<tr>
<td>✓ Gene and Occupational Health and Safety</td>
<td>✓ Oxytocin and Occupational Health and Safety</td>
<td>✓ Serotonin and Occupational Health and Safety</td>
</tr>
<tr>
<td></td>
<td>✓ Physiology and Occupational Health and Safety</td>
<td></td>
</tr>
</tbody>
</table>
Table S-2

Exclusion Criteria

<table>
<thead>
<tr>
<th>N</th>
<th>Criteria</th>
<th>Reason for Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Organizational evolution papers</td>
<td>Examine how organizations evolve but do not look at the relationships between biology and management.</td>
</tr>
<tr>
<td>2</td>
<td>Metaphor papers</td>
<td>Compare organizational activities to biology only metaphorically and do not look at the relationships between biology and management.</td>
</tr>
<tr>
<td>3</td>
<td>Biological contexts papers</td>
<td>Examine the relationships between different management variables in biology-related contexts such as hospitals, pharmacies, biotech companies but do not look at the relationships between biology and management</td>
</tr>
<tr>
<td>4</td>
<td>Proxy papers</td>
<td>Use proxies such as age, gender, and ethnicity for biology.</td>
</tr>
<tr>
<td>5</td>
<td>Marketing papers</td>
<td>Do not capture management-related phenotypes</td>
</tr>
<tr>
<td>6</td>
<td>Accounting, Economics and Finance papers</td>
<td>Do not capture management-related phenotypes</td>
</tr>
<tr>
<td>Research Area</td>
<td>Genetics</td>
<td>Physiology</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>1. Entrepreneurship</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>2. Leadership</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>3. Organizational Behavior</td>
<td>42</td>
<td>66</td>
</tr>
</tbody>
</table>
Table S-4

Moderators and Mediators that Influence the Genetic Effect on Management

<table>
<thead>
<tr>
<th>Research Area</th>
<th>Environmental Modifiers</th>
<th>Individual Mediators</th>
<th>Environmental Mediators</th>
<th>Physiological Mediators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship</td>
<td>Family environment</td>
<td>Neuroticism</td>
<td>Extraversion</td>
<td>Conscientiousness</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Social environment</td>
<td>Family experience</td>
<td>Work experience</td>
<td>Cultural endorsement</td>
</tr>
<tr>
<td>Organizational Behavior</td>
<td>Education</td>
<td>Neuroticism</td>
<td>Job demand</td>
<td>Dopamine</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Extraversion</td>
<td>Conscientiousness</td>
<td>Job control</td>
<td>Serotonin</td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>Job complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>Affect</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cognitive abilities</td>
<td>Stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Job characteristics</td>
<td>Work values</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>Pay level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure S-1

Key Journals

Journal of Applied Psychology 20
The Leadership Quarterly 19
Journal of Organizational Behavior 10
Frontiers in Human Neuroscience 9
Organizational Behavior and Human Decision Processes 8
Journal of Management Inquiry 7
Journal of Business Ethics 6
Annals of the New York Academy of Sciences 6
Academy of Management Journal 6
PLoS ONE 5
Journal of Occupational Health Psychology 5
Human Relations 5
Applied Psychology 5
Small Business Economics 4
Management Science 4
Journal of Management 4
Academy of Management Proceedings 3
Proceedings of the National Academy of Sciences 3
Personnel Psychology 3
Journal of Vocational Behavior 3
Journal of Business Venturing 3
International Journal of Management 3
Academy of Management Review 3

0 5 10 15 20 25
Figure S-2

Inherited Phenotypes (Twin Studies)
Figure S-3

Testosterone and Organizational Variables

Entrepreneurship
Occupational choice
Occupational status
Leadership
Workplace conflict
Group efficacy
Earnings
Leadership abilities
Entrepreneurial abilities
Entrepreneurial success
Leader corruption
Bidding
Job complexity
Commitment to strategic goals
Firm performance
REFERENCES


Dvorak, P., & Badal, J. 2007. This is your brain on the job: Neuroscientists are finding that business leaders really may think differently. *The Wall Street Journal*. 


Li, W.-D., Zhang, Z., Song, Z., & Arvey, R. D. 2016. It is also in our nature: Genetic influences on work characteristics and in explaining their relationships with well-being. *Journal of Organizational Behavior*, 37(6): 868-888.


Lovelace, K. J., Manz, C. C., & Alves, J. C. 2007. Work stress and leadership development: The role of self-leadership, shared leadership, physical fitness and flow in managing


