The Science of High Performing Teams

Enabling Positively Deviant Team Performance
The science of team science (SciTS) is a rapidly emerging field focused on understanding and enhancing the processes and outcomes of team science. A key goal of SciTS is to learn more about factors that maximize the efficiency, productivity, and effectiveness of team science initiatives.
My Objectives

• To identify factors that lead to high performance in teams

• To provide the foundation for evidence-based practice in team performance
Frequently in the fall, scores of Canada geese fly over my house to the nature pond nearby. What is distinctive about these flights is that the geese always fly in a V pattern. The reason for this pattern is that the flapping wings of the geese in front create an up-draft for the geese that follow. This V pattern increases the range of the geese collectively by 71 percent compared to flying alone. On long flights, after the lead goose has flown at the front of the V for awhile, it drops back to take its place in the V where the flying is easier. Another goose then takes over the lead position, where the flying is most strenuous. If a goose begins to fly out of formation, it is not long before it returns to the V because of the resistance it experiences when not supported by the other geese’s wing flapping.

Another noticeable feature of these geese is the loud honking. Canada geese never fly quietly. The reason for the honking in the rear of the formation is to encourage the lead goose. The leader doesn’t honk—just those who are supporting and urging on the leader. If a goose is shot, becomes ill, or falls out of formation, two geese break ranks and follow the wounded or ill goose to the ground. There they remain, nurturing their companion, until it is either well enough to return to the flock or dies.

This remarkable phenomenon serves as a metaphor for our discussion of teamwork.
Some Attributes of Effective Teams

**Effective teams have interdependent members.** Like geese, the productivity and efficiency of an entire unit is determined by the coordinated, interactive efforts of all its members.

**Effective teams help members be more efficient working together than alone.** Like geese, effective teams outperform even the best individual’s performance.

**Effective teams function so well that they create their own magnetism.** Like geese, team members desire to affiliate with a team because of the advantages they receive from membership.

**Effective teams do not always have the same leader.** As with geese, leadership responsibility often rotates and is shared broadly as teams develop over time.

**In effective teams, members care for and nurture one another.** No member is devalued or unappreciated. All are treated as an integral part of the team.

**Effective teams have members who cheer for and bolster the leader, and vice versa.** Mutual encouragement is given and received by each member.

**Effective teams have a high level of trust among members.** Members demonstrate integrity and are interested in others’ success as well as their own.

Source: Cameron, 2010
Evidence for the Importance of Teams

<table>
<thead>
<tr>
<th>Percent Indicating Improvement</th>
<th>Percent Indicating Positive Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management became more participatory</td>
<td>Quality of products and services</td>
</tr>
<tr>
<td>Improved processes and procedures</td>
<td>Customer service</td>
</tr>
<tr>
<td>Improved managerial decision making</td>
<td>Worker satisfaction</td>
</tr>
<tr>
<td>Increased employee trust</td>
<td>Employee quality of work life</td>
</tr>
<tr>
<td>Improved technology implementation</td>
<td>Productivity</td>
</tr>
<tr>
<td>Eliminated layers of supervision</td>
<td>Competitiveness</td>
</tr>
<tr>
<td>Improved safety and health</td>
<td>Profitability</td>
</tr>
<tr>
<td>Improved union-management relations</td>
<td>Absenteeism</td>
</tr>
<tr>
<td></td>
<td>Turnover</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SOURCE; Lawler, Mohrman, &amp; Ledford, 1992</td>
<td></td>
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</tbody>
</table>
So, How Do We Create High Performing Teams?

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Criteria for Content

• Empirical foundation – **Validity**

• Theoretical grounding – **Explanation**

• Successful application - **Utility**
The Importance of Perspective
The Importance of Perspective

The pick-up was traveling about 75 mph, from right to left, when it crashed through the guardrail, flipped end-over-end, bounced off and across the culvert outlet, and landed right-side-up on the left side of the culvert, facing the opposite direction. The 22-year-old driver and his 18-year-old passenger were unhurt.
The Importance of Perspective
# A Deviance Continuum

![Diagram](https://via.placeholder.com/150)

**Negative Deviance**

<table>
<thead>
<tr>
<th>Individual:</th>
<th>Normal</th>
<th>Positive Deviance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological</td>
<td>Illness</td>
<td>Health</td>
</tr>
<tr>
<td>Psychological</td>
<td>Illness</td>
<td>Health</td>
</tr>
</tbody>
</table>

**Organizational:**

<table>
<thead>
<tr>
<th>Economics</th>
<th>Unprofitable</th>
<th>Profitable</th>
<th>Generous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Ineffective</td>
<td>Effective</td>
<td>Excellent</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Inefficient</td>
<td>Efficient</td>
<td>Extraordinary</td>
</tr>
<tr>
<td>Quality</td>
<td>Error-prone</td>
<td>Reliable</td>
<td>Perfect</td>
</tr>
<tr>
<td>Ethics</td>
<td>Unethical</td>
<td>Ethical</td>
<td>Benevolent</td>
</tr>
<tr>
<td>Relationships</td>
<td>Harmful</td>
<td>Helpful</td>
<td>Honoring</td>
</tr>
<tr>
<td>Adaptation</td>
<td>Threat-rigidity</td>
<td>Coping</td>
<td>Flourishing</td>
</tr>
</tbody>
</table>

Deficit gaps  
Abundance gaps

SOURCE: Cameron, 2003
The Key Explanation

Focusing on Abundance Gaps → The Heliotropic Effect
Research Illustrating the Heliotropic Effect

• The Pygmalion Effect
• Positive Emotions
• Positive Imagery
• Groups of Gratitude, Positive, Approach Goals Versus Ingratitude, Negative, Avoidance Goals
• Positive Relationships
• Positive Energy
• Strengths Orientation

SOURCES: See Cameron & Lavine, 2006; Cameron, 2007 for references
Effects of Abundance - Individuals

Comparisons between individuals characterized by the right-hand factor compared to the left-hand factor have shown dramatic differences:

<table>
<thead>
<tr>
<th>Gratitude Journal</th>
<th>versus</th>
<th>Frustration Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capturing the Best</td>
<td>versus</td>
<td>Capturing the Worst</td>
</tr>
<tr>
<td>Virtuous Practices</td>
<td>versus</td>
<td>Non-virtuous practices</td>
</tr>
</tbody>
</table>

- more antibodies after vaccines
- stronger genetic expression
- more mental alertness, acute and long lasting memory, and faster learning
- enhanced filtration, bodily fluid exchange, energy efficiency, coherence
- more inquisitiveness, creativity, and exploration
- higher levels of productivity and quality performance
- recovery from disease
- avoidance of depression after spouse loss

SOURCES: See Cameron & Lavine, 2006; Cameron, 2007 for references
Coherence of Heart Activity

At the highest levels of heart coherence, the power spectrum of the heart peaks at 0.1 hertz (the ideal).

Coherence refers to the coordinated oscillation of heart and brain rhythms.
Vagus Nerve and Positivity

Engendered positive emotions enhance vagal nerve functioning and, consequently, long-term wellness.

SOURCE: Cohn & Fredrickson, 2011
Positive Relationships

• The presence of positive relationships predict:
  – Recovery from surgery
  – Incidence of prostate cancer
  – Immunity to colds and flu viruses
  – Incidence of heart attacks
  – Ability to cope with stress (oxytocins)
  – Worker satisfaction and productivity
  – Life expectancy

• Due to hormonal, cardiovascular, and immunity responses in the body.

Explanation for Relationship Effect

- Contribution goals versus Achievement goals
- Kidney dialysis patients

Hand hygiene prevents you from catching diseases.

0% increase

Hand hygiene prevents patients from catching diseases.

33% increase

Predicting change in hospitals

SOURCES: Crocker, Brown, Grant
Capitalizing on Strengths

• Identifying people’s strengths (and what they do right) and building on them creates more benefit than identifying weaknesses (or what they do wrong) and trying to correct them.
• Managers who spend more time with their strongest performers (rather than the weakest performers) achieved double the productivity.
• In organizations where workers have a chance to “do what they do best everyday,” productivity is one and a half times greater than in normal organizations.
• People who are given feedback on their strengths are significantly more likely to feel highly engaged and to be more productive than people who are given feedback on their weaknesses.
• Students who are given feedback on their talents have fewer days of absenteeism, less tardiness, and higher GPAs than students who get no feedback on their talents.

SOURCE: Clifton & Harter, 2003
Leaders Aren’t Always Positive Energizers

De-energizing network

Hierarchy
- Non-Supervisors
- Supervisors

De-energizing network without the supervisors

Hierarchy
- Non-Supervisors
Information Sharing

Information sharing network

Information flow in de-energizing networks

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Positive Energizers  


- Those who positively energize others are higher performers. Position in the *energy* network is four times the predictor of performance compared to position in *influence* and *information* networks.

- Positive energizers tend to enhance the work of others. People who interact with or are connected to energizers also perform better.

- High performing firms had three times as many positive energizing networks than low performing firms.
Positive Energy in Health Care Organizations

• Four different studies using respondents in a national health services organizations
  – N=475
  – N=196
  – N=182
  – N=424

SOURCE: Owens, Baker, & Cameron, 2012
Positive Leadership & Individuals

Positive Energy of the Unit Leader

- Job Satisfaction: p < .001
- Well-Being: p < .001
- Engagement: p < .001
- Enrichment of Families: p < .01
- Performance

SOURCE: Owens, Baker, & Cameron, 2012
Positive Leadership & Units

Positive Energy of the Unit Leader

- Cohesion
  - p < .001

- Experimentation / Innovation
  - p < .001

- Team Learning Orientation
  - p < .001

- Performance
  - p < .01

SOURCE: Owens, Baker, & Cameron, 2012
# High Performance Teams

<table>
<thead>
<tr>
<th></th>
<th>Team Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Positive Statement Ratio</td>
<td>5.6 to 1</td>
</tr>
<tr>
<td></td>
<td>(supportive, encouraging, appreciation)</td>
</tr>
<tr>
<td>Inquiry/Advocacy Ratio</td>
<td>1.1 to 1</td>
</tr>
<tr>
<td></td>
<td>(questioning versus asserting)</td>
</tr>
<tr>
<td>Others/Self Ratio</td>
<td>.94 to 1</td>
</tr>
<tr>
<td></td>
<td>(external versus internal focus)</td>
</tr>
<tr>
<td>Connectivity Average</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>(mutual influence, assistance, interaction)</td>
</tr>
</tbody>
</table>

SOURCE: Losada & Heaphy, 2003
Improvement in Health Care over 2 Years

- Patient Satisfaction: 26%
- Willingness to Recommend: 26%
- Voluntary Turnover: 8%
- Climate: 36%
- Participation: 38%
- Quality of Care: 29%
- Manager Support: 38%
- Resource Adequacy: 34%
- Physician/Nurse Relations: 12%
Prescriptions for Leading High Performance Teams

• **Unleash the heliotropic effect.**
  We have learned to ignore it.

• **Foster positive energy.**
  Energy is 4 times more powerful than information and influence.

• **Focus on abundance gaps.**
  People get consumed by problems and obstacles.

• **Celebrate what’s right with the world.**
  Mistakes usually dominate the agenda.
Some POS Resources