Leading and managing research universities: Why we need scholars in charge

THE ROYAL DANISH ACADEMY OF SCIENCES AND LETTERS

Amanda Goodall
Denmark’s research output has risen dramatically over the last 20 years. Impressively so.
Today I will present the latest evidence on academic leadership -- and I will argue that:
If Denmark wants to maintain its position, and continue to produce outstanding innovative research, then it should ensure it has its best academics in charge of research universities and funding bodies.
Who should lead research universities?
Who should lead research universities?

Good managers?

Good scholars?
Socrates in the Boardroom: Why Research Universities Should Be Led by Top Scholars

Amanda H. Goodall

Appointment of a Scholar on a Continuum between Extreme Researcher and Extreme Manager

GOVERNING BODY

Long Term Strategy
IMPROVE RESEARCH PERFORMANCE

Choice of Leader on Continuum

Extreme researcher

Extreme manager

Change in Research Performance of University
Scholarship is not a proxy

• For management experience or leadership skills
Scholarship is not a proxy

- For management experience or leadership skills
Scholarship is not a proxy

• For management experience or leadership skills

• Most academic administrators in senior leadership positions are tenured professors – have led departments, run research centres and laboratories, acted as deans or provosts.
Key Research Findings

1. The best universities are led by top scholars.
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2. Top scholars seem to improve the later performance of their university.
The Research

• Two cross-sectional studies
  100 top universities and 100 business schools
The Research

- **Two cross-sectional studies**
  100 top universities and 100 business schools

- **Longitudinal study**
The Research

• Qualitative data
  26 interviews with university leaders in the US and UK
Stage 1 of research

Who do the very top universities in the world appoint as their leaders?
Here I examine the relationship between the position of a university in a global ranking and the lifetime citations of its leader.
Conclusion 1

The best universities are led by the most-cited researchers.
A Cross-Tabulation of Presidents' Lifetime Citation P-scores by World University Rank (in quintiles)
Is the finding statistically significant?
Results of Cross-Sectional Correlations of Presidents’ Lifetime Research Citations by University Rank from Four Different Sub-Samples

<table>
<thead>
<tr>
<th>Pearson’s Correlation Coefficient between Lifetime Citations and Rank</th>
<th>(1) Presidents of top 100 universities (n=100)</th>
<th>(2) Female presidents (n=15)</th>
<th>(3) US presidents (n=51)</th>
<th>(4) Presidents from the rest of the world (n=49)</th>
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<tbody>
<tr>
<td>0.344***</td>
<td>0.690**</td>
<td>0.375**</td>
<td>0.140</td>
<td></td>
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</tbody>
</table>

***p < 0.001    **p < 0.01
How do US universities compare with those in Europe?
The share of Nobel Prizes in the sciences has shifted towards the USA in the last 50 years.
European countries include: Austria, France, Germany, Italy, Netherlands, Sweden, Switzerland and UK.

The rise in the number of US based Nobel Prize winners in physics, chemistry, medicine and economics between 1900-2012*

*European countries include: Austria, France, Germany, Italy, Netherlands, Sweden, Switzerland and UK.
One third of US Nobel Prizes are awarded to individuals born outside the USA

320 prizes have gone to US institutions

219 winners listed as being born in the US – one third born outside.
1% of US universities and colleges has ever received a Nobel Prize

55 US universities approx. have won at least one prize (in addition to research labs and hospitals)

1% of the 4,500 degree-granting institutions in the US
What evidence is there that academic leaders improve performance?
In part 2 of my study

Time lags have been incorporated
In part 2 of my study

Time lags have been incorporated

I look at performance of a university a number of years after a leader is hired
Universities and Leaders

– Performance of 55 UK research universities

– 147 university leaders

– Citations normalised by discipline into P-Scores
Performance Measurement

– Research Assessment Exercise (RAE)

– Improvement over time in departments rated 5A*, 5B* and 5A in RAE

Results

The correlation exists in raw longitudinal data
Universities that Improved the Most in the RAE Between 1992-2001 Were Led by Vice Chancellors With Higher Lifetime Citations (n=55 universities)
Mainly I used multiple-regression equations with control variables to try to identify a causal association.
• I control for the size of a university

• The discipline of a leader (scientist, social scientist or humanist)

• The age of a leader
What is the size of the effect of vice chancellors’ research score on the future performance of their university’s RAE?
A hypothetical 1 point move up in a VC’s P-score is estimated to be associated with 0.4 extra top departments in 2001.

0.3 extra departments when other variables are included.

NB: Mean P-Score = 5
Mean University Performance = 7
Conclusion

The higher a president’s lifetime citations, the more likely it is that their university will improve its performance in *future* Research Assessment Exercises.
This kind of finding has been replicated, with co-authors, in other settings.
Professional basketball

Star basketball players make better basketball coaches (Goodall, Kahn & Oswald, Journal of Economic Behavior and Organization, 2011).
After controlling for confounding variables, we find that the most successful team leaders in F1 motor racing are more likely to have started their careers as drivers.
Empirical study of physician-leaders and hospital performance in the US

- Hospital CEOs – physicians or non-MD CEOs?
Empirical study of physician-leaders and hospital performance in the US

- Hospital CEOs – physicians or non-MD CEOs?
- CEOs in the top-100 hospitals in Cancer, Digestive Disorders, and Heart & Heart Surgery. (‘America's Best Hospitals’ 2009 U.S. News and World Report).
Empirical study of physician-leaders and hospital performance in the US

The higher a hospital’s performance score, the more likely it is that its CEO is a physician.

Goodall, A.H. Social Science and Medicine, August 2011
Current work – Chairs of US Economics Departments
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Change in performance of US economics departments

• With co-authors John McDowell and Larry Singell.

• We look at the change in performance of 67 US economics departments over 14 years.
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• We look at the change in performance of 67 US economics departments over 14 years.

• We find that departments go on to improve when they are led by top researchers.
Change in the performance of US economics departments and their Chairs’ citations

Change in Quality
(publications & citations)

Quality of Economics Departments

Research Quality of Department Chair

14,000 Citations
Why might it matter if a leader is a top scholar?

Four possible explanations arose from interviews with 26 heads in UK and US universities.
Explanation 1

A leader must be credible to followers. An accomplished scholar appears more credible, which enhances a leader’s influence.
“The rationale for ranking academic excellence very highly is the enormous importance we place on the president having the respect of the faculty. Without that, it is very difficult to lead a research university.”

Shirley Tilghman, President Princeton University
Leaders with high technical ability have developed expert knowledge about the organization’s core business -- research and teaching.
“A leader who is an academic helps to mobilize people. People are much more important in academic institutions than conditions. Everything in a university flows from the academic value of faculty.”

Anthony Giddens, former Director LSE
It is the responsibility of leaders to set the academic standards.
“Leaders are the final arbiters of quality. Therefore it is right to expect the standard bearer to first bear the standard.”

Patrick Harker, former Dean, Wharton School
Current President, Univ. Delaware
Explanation 4

Selecting a top academic to lead a research university sends out a signal about priorities.
“Being a researcher sends a signal to the faculty that you, the president, share their scholarly values and general understanding. It also sends an internal signal to colleagues that research success in the institution is important.”

Amy Gutmann, President
University of Pennsylvania
Denmark’s research output has risen dramatically over the last 20 years.

How can it stay that way?
What advice might I pass on to Danish politicians?
What advice might I pass on to Danish Politicians?

No. 1: Don’t be tempted to control universities and research institutes through managers and managerialism.

Managers design systems that work well for other managers, not for academics.
“We’ve got 57 team managers, 36 project coordinators, and 63 concept implementors—not bad for a company with only 18 employees!”
What advice might I pass on to Danish Politicians?

No. 2: If you want to maintain globally competitive research and innovation, ensure you have academics leading the institutions – your best academics.
Scholars know how to create the right environment to get the most out of other scholars.

Top scholars are more likely to hire other top scholars.
Like-for-like hiring or ‘homophily’
Weil's Law of university hiring:

Not just in universities

Scholars should also lead bodies involved in higher education policy-making and funding.

- Research Councils

- Private trusts and foundations focused on funding research
What advice might I pass on to Danish Politicians?

No. 3: Academics will need incentives to become leaders, and hiring and holding onto the best faculty will require competitive conditions.

This means inequality in top pay in universities.
What advice might I pass on to Danish scientists?
We need scholar-leaders, but ...

✓ Few good researchers want to cross over to the ‘dark side’
✓ If you don’t, the dark side may come to you!
Scholar-leaders need to be good managers

✓ Make sure there are good training programmes for academic managers and leaders that are right for them.

✓ Think about the long-term – think succession.
Change the status of academic leaders

It is a high-status activity.

Good scholar-leaders give scientists a voice and muscle to defend their position in society, and to promote good science.
Tak

My work is available at:

www.amandagoodall.com