

# Supplementary information to: Is your most-cited work your best? (Comment in *Nature* 514, 561–562; 2014)

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**Appendix Figure 1:** Web survey form used to query highly influential biomedical researchers about their high impact papers.

**SciTech Strategies Survey**

**Highly-Influential Scientist: Walter C. Willett**

The purpose of this survey is to explore different dimensions of impact among highly cited papers. We have invited only the 400 most-cited scientists in biomedicine to participate in this work, since we believe that they would be the best to have insight on the different dimensions of scientific impact. As you are one of these extremely influential scientists, we would very much appreciate your willingness to complete this survey.

Below you will find listed 10 of your high impact articles published between 2005 and 2008. You will also find listed six features related to the nature of impact, influence and innovation, each with a definition. Please rate each of your papers below on each feature using the 0-100 scale, which is also shown below.

**You will need to scroll to see all 10 papers.**

If you have questions about this survey, please contact John Ioannidis (jioannid@stanford.edu).

**Definitions:**

**Disruptive Innovativeness**  
Does the paper introduce a radically new solution (or framing of a problem) that, if successful, changes the status quo (i.e. what people believe, who they interact with, who gets funded)?

**Continuous Progress**  
Does the paper present significant improvements (e.g. better data, measures, instrumentation) that addresses existing research problems? Learning is more incremental and the problem doesn't need to be reframed.

**Greater Synthesis**  
Does this paper have a larger picture, overview approach to a field or set of questions that improves comprehensiveness, understanding, and clarity on the state-of-the-art and the most appropriate future steps?

**Broader Interest**  
Is this a paper that you would expect someone outside your field to be interested in? Is there social concern?

**Surprise**  
Were the results or inferences in the paper surprising to you or your colleagues?

**Publication Difficulty**  
Has the paper gone through major revisions in order to be published? Was this a 'hard' paper to get published? Was it initially rejected by a more influential journal?

**Scale:**

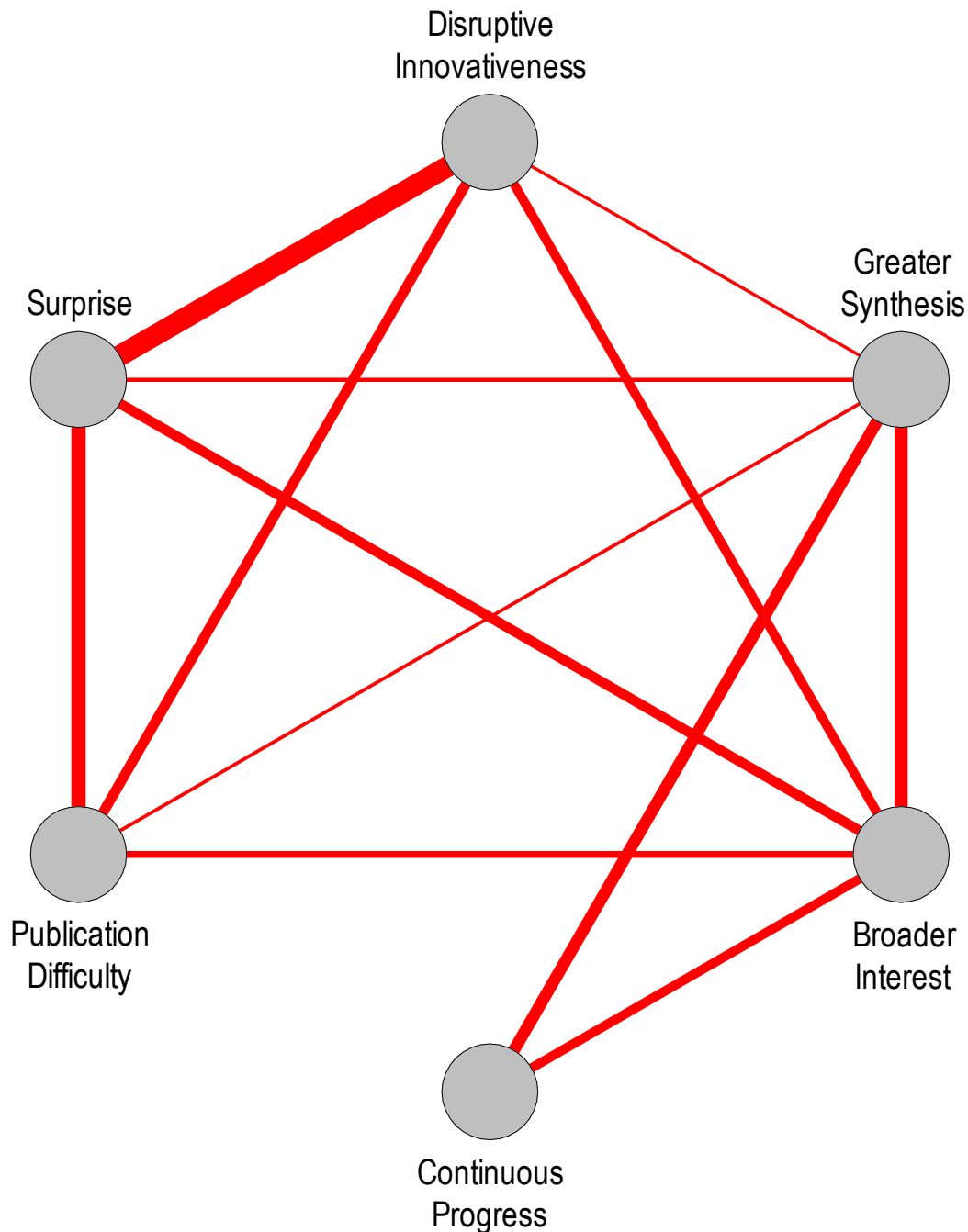
Continuous Scale	0	25	50	75	100		
	Not at all	Modest	Substantial	Prominent	Complete		
		Disruptive Innovativeness	Continuous Progress	Greater Synthesis	Broader Interest	Surprise	Publication Difficulty
<b>Example of scores for an article</b>		20	90	30	60	15	55

9	Wang Y., Rimm E.B., Stampfer M.J., Willett W.C., ... (2005). Comparison of abdominal adiposity and overall obesity in predicting risk of type 2 diabetes among men. <i>AM J CLIN NUTR</i> , v. 81, p. 555.	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
10	Forman J.P., Giovannucci E., Holmes M.D., Willett W.C., ... (2007). Plasma 25-hydroxyvitamin D levels and risk of incident hypertension. <i>HYPERTENSION</i> , v. 49, p. 1063.	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Is your most important paper published between 2005 and 2008 in the list of 10 above?  Yes  No

**Submit**

**Figure 2:** Correlation between dimensions of perceived importance. The thickness of the connection between nodes is proportional to the magnitude of the correlation coefficient. All shown correlations are positive and nominally statistically significant ( $p < 0.05$ ). Correlations with absolute magnitude of  $\leq 0.05$  and  $p > 0.05$  are not shown. No correlations were negative with absolute magnitude exceeding 0.05.



**Appendix Table 1:** Factor analysis using principal components and regression scoring

Variable	Factor1 Eigenvalue=1.38	Factor2 Eigenvalue=0.65
Continuous Progress	0.07	0.30
Broader Interest	0.21	0.24
Greater Synthesis	0.13	0.32
Disruptive Innovativeness	0.30	-0.18
Surprise	0.38	-0.18
Publication Difficulty	0.17	-0.07

We had pre-specified that an eigenvalue cut-off of 1.00 would be needed for a factor to be informative. Thus only factor 1 is informative and its loadings are positive on all 6 dimensions.