

ANSWER KEY **3.2 The topic sentence**

1. Science has shown an impressive growth over past decades and more scientific papers are published now than ever before. Between 1996 and 2011, over 15 million individuals authored around 25 million papers. Owing to expanding research fields, it is increasingly difficult to get studies published in high impact journals. This is important since..... Consequently, in order to get published, scientific discoveries can sometimes be exaggerated or the potential implications overstated. Indeed, overinterpretation, overstatement, and misreporting of scientific results have been frequently reported. However, the prevalence of this problem in the scientific literature is unclear.

Topic: The consequences of the increase of published science.

Paragraph question: What are the (problematic) consequences of the increase of published science?

2. Frequency patterns of all individual words in abstracts showed increased use during the search period, although with large variation (fig 2↓). The words “robust,” “novel,” “innovative,” and “unprecedented” increased in relative frequency from 2500% to 15 000% (fig 2↓). Removal of these words still yielded a relative frequency increase of 540%. Moreover, word trends were similar after exclusion of low frequency words such as “inventive” and “astonishing.” Analyses of additional positive words based on a recent article¹⁵ (“breakthrough,” “cure,” “marvel,” “miracle,” “revolutionary,” and “transformative”) showed comparable and consistent patterns increases in frequency (web fig S1).

Topic: The increased frequency of all individual words in abstracts (a finding of the study).

Paragraph question: What is the supporting evidence (data)?

3. Our results are consistent with previous work on the evolutionary basis of human emotions and with work focusing on the fleeting direct spread of emotions. In addition to their internal and psychological relevance, emotions have a specifically social role: when humans experience emotions, they tend to show them. Like laughter and smiling, the emotion of happiness might serve the evolutionarily adaptive purpose of enhancing social bonds. Human laughter, for example, is believed to have evolved from the “play face” expression seen in other primates in relaxed social situations. Such facial expressions and positive emotions enhance social relations by producing analogous pleasurable feelings in others, by rewarding the efforts of others, and by encouraging ongoing social contact. Given the organisation of people (and early hominids) into social groups larger than pairs, such spread in emotions probably served evolutionarily adaptive purposes. There are thus good biological, psychological, and social reasons to suppose that social networks would be relevant to human happiness.

Topic: Comparison / consistency of our results with related literature.

Paragraph question: What has related work shown?

4. Treating patients for a complicated Urinary Tract Infection (cUTI) with an oral antibiotic instead of an intravenous antibiotic has several advantages. Often, the administration of intravenous antibiotics provokes specific complications, such as infection of the iv-catheter. Also, it implies hospitalization or a specialized home treatment, of which complications like hospital acquired infection, functional decline, venous thrombo-embolism, falls, delirium, sleep deprivation, pressure ulcers and readmissions are well known. These risks are avoided by the use of oral antibiotics.

Topic: The advantages of an oral antibiotic instead of an intravenous antibiotic in case of a cUTI.

Paragraph question: What are the advantages of treating a cUTI with an oral antibiotic instead of an intravenous antibiotic? (Or; what are the disadvantages of intravenous administration?)

5. Recent evidence from psychology, sociology, and economics, however, suggests that two additional strategies might be necessary to close the gap. Firstly, define hiring criteria in advance of evaluating candidates. Without clearly defined criteria, evaluators unconsciously redefine what they are seeking to match the attributes of male candidates. As a result, women, and especially mothers, tend to be evaluated more negatively than men with the same professional characteristics. Secondly, increase temporal flexibility in job structures. In many occupations,

Topic: Next two steps to close the gap.

Paragraph question: What are these two steps?