

We knew the future all along: *a priori* hypothesizing is much more accurate than other forms of precognition

Arina K. Bones
University of Darache

BACKGROUND

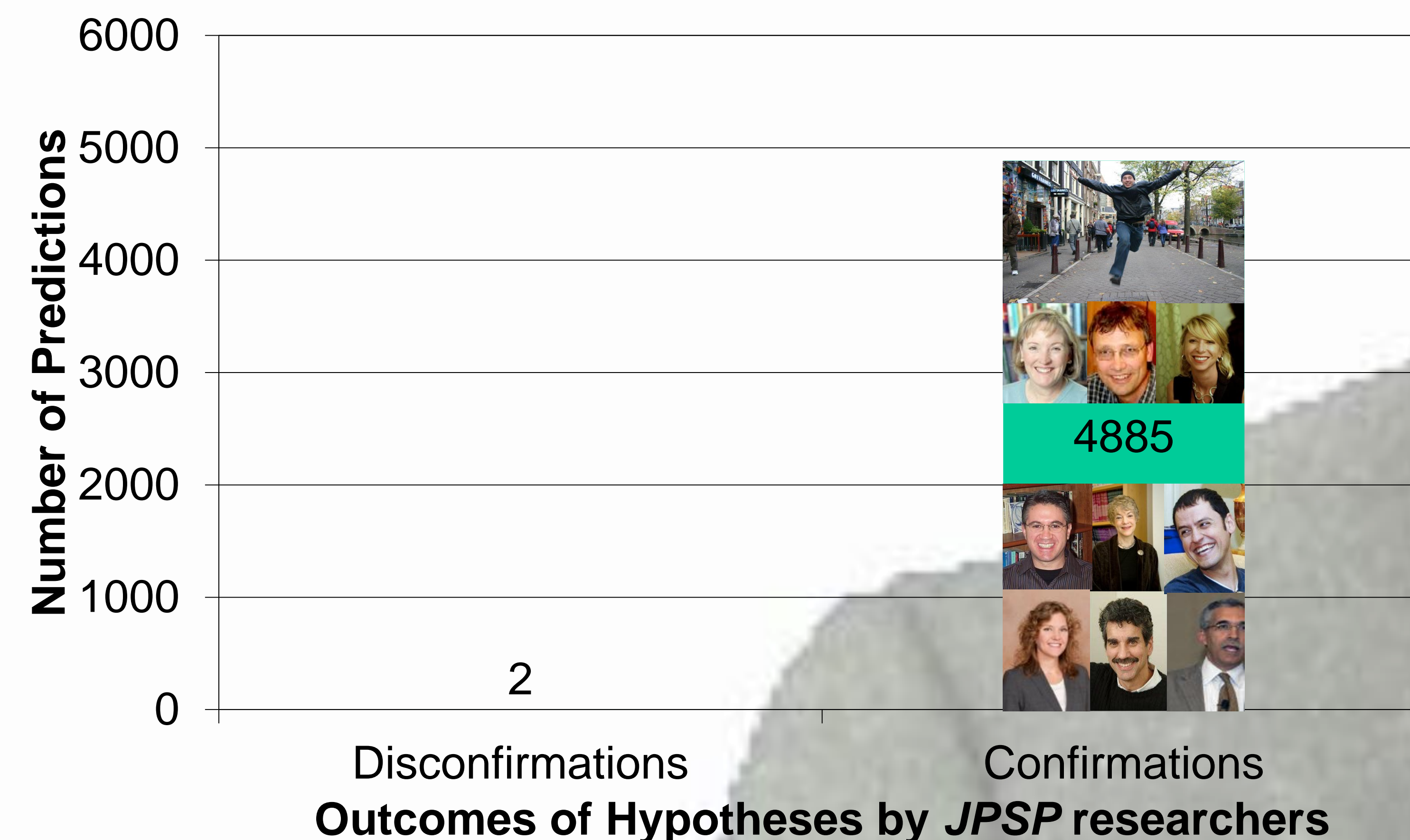
Daryl Bem's 2011 article "Feeling the future: Experimental evidence for anomalous retroactive influences on cognition and affect" in the *Journal of Personality and Social Psychology (JPSP)* reported evidence of precognition. Publication of this article anticipates the decline of *JPSP*, illustrates the lack of adherence to its standards, and threatens the integrity of the field. With this poster, I hope to inspire a course correction to assert and affirm the field's treasured practices.

PRIMARY OBJECTION

The primary failure in publication of Bem (2011) is that *JPSP* did not follow its evaluation standard – to publish evidence that advances novel theoretical ideas. What is new in the Bem article? Nothing. Bem's article is a weak replication of a well-established phenomenon.

FIGURE: JPSP PRECOGNITION

* While the data for this Figure were not actually collected, the evidence presented clearly demonstrates that data collection is irrelevant.



REFERENCES

- Bem (2011). Feeling the future: Experimental evidence for anomalous retroactive influences on cognition and affect. *Journal of Personality and Social Psychology*, 100, 407-425.
- Bones, A. K. (1996). Zajonc is totally an alien. *American Psychologist*, 51, 1231-1238.
- Denes-Raj, V., & Epstein, S. (1994). Conflict between intuitive and rational processing: When people behave against their better judgment. *Journal of Personality and Social Psychology*, 66, 819-829.
- Simmons J., Nelson L., Simonsohn U. (2011) "False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allow Presenting Anything as Significant", *Psychological Science*, 22, 1359-1366.
- Zajonc, R.B., Heingartner, A., & Herman, E.M. (1969). Social enhancement and impairment of performance in the cockroach. *Journal of Personality and Social Psychology*, 13, 83-92.

OVERWHELMING EVIDENCE

The evidence for precognition is *JPSP* itself. Just open a random issue. In it, you'll find countless *a priori* hypotheses anticipating the findings that eventually occurred. It is patently obvious that one could not possibly have anticipated the results without some form of precognition. Examples:

- People walk slower after thinking about moving to Florida?
- People are obsessed with thinking about white bears?
- People have, don't have, have, don't have, have personalities?

Skeptics may think that this evidence is just cherry-picking. Not so. Consider the sheer magnitude of hypothesis confirmation. The Figure presents the proportion of hypotheses by the authors of *JPSP* articles that were confirmed versus disconfirmed. All hypotheses except for two were confirmed. In one case, Denes-Raj and Epstein (1994) had a secondary hypothesis that their primary hypothesis would be incorrect. In the other case, Zajonc (1969), himself an alien with domination aspirations (Bones, 1996), declared that by 1974 cockroaches would control most of the eastern U.S. because "it would be so easy and they inspire each other so damn well." Compared to the paltry accuracy rates by Bem's precognition subjects (less than 60%!), the conclusion is clear: Bem's effects are startlingly weak compared to the published evidence for precognition in *JPSP*.

SUPPOSED LIMITATIONS

First, some might argue that high-profile examples of prediction failures by social psychologists is counterevidence to the above (see Table). However, the occasional misprediction only serves as confirmation of the overall result. Second, it is true that social psychologists are a biased sample. But, I am not generalizing to all people. Such generalization is left to those that later cite this work, as is standard practice. Third, one might claim an alternative account in which researchers are not predicting the future, they are controlling it. However, I did not predict that. And, if you do not understand this as a refutation, then you need to look at the Figure again.

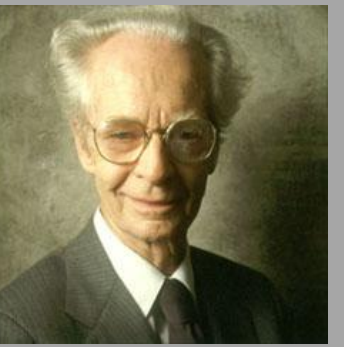


Finally, a skeptic might counter that the *JPSP* authors could have conducted the studies, found results, dismissed inconsistent data, and then written the paper *as if* those were the results that they had anticipated all along. However, orchestrating such a large-scale hoax would require the coordination and involvement of thousands of researchers, reviewers, and editors. Researchers would have to selectively report those that "worked." Reviewers and editors would have to selectively accept positive, confirmatory results and reject any norm violating researchers that submitted negative results. The possibility that an entire field could be perpetrating such a scam is so counterintuitive that only a social psychologist could predict it if it were actually true.

CONCLUSION AND NEXT STEPS

With a near 100% accuracy rate, *JPSP* has clearly demonstrated that psychological scientists already know what is going to occur. This makes the subsequent empirical confirmation superfluous. Once predicted, there is no logical justification for expending the resources to actually conduct the data collection and analysis.

There are some positive signs that the revolution away from empirical confirmation is underway. For example, *JPSP* has adopted a policy of not publishing replications to clarify their meager importance compared to novel findings. Indeed, if the result was known before the first empirical test, then what possible value would there be in conducting a second empirical test? *JPSP* is at the vanguard for redefining reproducibility, known as the *sine qua non* of old-fashioned science (Aristotle, Popper), as the *sine qua none* of revolutionary science.³ Also, revolutionaries in the *Skip Testing Actual Participants in Experiments League* have advanced methods for empirical reporting without being encumbered by real data. Without replication, these practices are easily implemented and highly effective.⁴ Finally, Simmons, Nelson, and Simonsohn (2011) have provided a useful step-by-step guide for ensuring that actual data (for those who choose to bear this burden) is certain to demonstrate the pre-known effects. Their simulations illustrate the importance of maximizing researcher power by enhancing their freedom. Affording the researcher her fundamental right to freedom in sampling, exclusion criteria, measures, and analysis strategy, "allows presenting anything as significant." In psychology, the word "significant" is the technical term for *true* which, of course, we already knew.

Table: Notable Prediction Errors in Psychology

- 1974: B.F. Skinner predicts that people could be conditioned to adopt his hairdo. Ultimately ends the "age of behaviorism". 
- 1976: Langer and Rodin predict that plants would live longer if cared for by older adults. Sheepishly publish the inverse result.
- 1999: For reasons unclear, Dan Molden closes an article predicting Jar Jar Binks to be the next iconic character of modern cinema.²  
- 2011: Jonathan Haidt predicts that there will someday be conservative Social Psychologists.¹

¹ Too soon to declare prediction failure? Come on. Like this is ever going to happen.

² Molden's more recent article predicting a 6th season of *The Wire* appears similarly doomed

³ But then, why did they fail to adhere to this policy in the case of Bem (2011)?

4. Impressively, *Psychological Science* advances this with its new 15-word all-headline article format. Easy-to-read. Flashy. No data or methods. Perfect for *real* impact – media mentions.