

Opinions and Perspectives

The *Wow* and *How* of Research in Social Psychology. Causes and Consequences.

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Crises in Social Psychology

In the 1970ies, social psychology was seen to be in a crisis (McGuire, 1973). There was heated debate over the ethics of laboratory experimentation, whether one can generalize from artificial experiments to natural situations, whether attitudes really predict behavior, whether our theories are not universal but mere descriptions of culturally and historically bound behaviors (Gergen, 1973). Dissonance theory had been challenged, but there was still no unified perspective that would give the field a common orientation. (Rijsman & Stroebe, 1989).

With the advent of social cognition (Wyer & Srull, 1986) and that of social identity (Tajfel & Turner, 1979) in the 80ies, the crisis seemed to be overcome and the field flourished on many dimensions. Moreover, there was an increasing public interest in our area and in our findings. The newspapers were eager to write about our studies and popular books were published on social psychology, Malcolm Gladwell's "Blink" (2005) and David Brooks' "Social Animal" (2011) being outstanding examples.

But during the last year, things have changed a bit. It started in September 2011 when a well-known colleague was found to have faked a great number of data sets. This massive fraud of a highly respected scientist made the headlines not only in his own country but all over the world. It was really hard to digest that his splendid and prize-winning academic career was, to a large degree, built on outright deception. And the perpetrator was a social psychologist, one of us, as you could read in every newspaper article. Not that all social psychologists were, all of a sudden, been seen as cheaters, but somehow, the great popularity of their findings started to backfire. People began to worry about the reliability of the psychic phenomena reported by Daryl Bem in *JPSP* (Bem, 2011). Some colleagues came out and reported failures to replicate various effects. Finally, two papers in *Psychological Science* suggested that social psychologists were particularly inclined to adopt "questionable research practices" (John, Loewenstein, & Prelec, 2012) and were admonished to spend more effort on direct replications (Simmons, Nelson & Simonsohn, 2011).

Research as Persuasive Communication

As a consequence, some soul searching has begun among social psychologists along with discussion about how their reputation can be restored. Many methodological suggestions are being advertised to avoid the file-drawer problem and particularly to deal with false positives. Some colleagues even seem to be on a crusade, and to them the prominent fraud seems to provide a moral license to engage in inquisitive actions that went beyond the norms of collegial conduct.

We as social psychologists have to deal with these challenges to avoid yet another and perhaps more serious crisis of our field. But unfortunately, there exists no methodological silver bullet that would solve all problems. In particular, there is no methodological procedure that links data and theory such that obeying certain rules would guarantee the truth. Rather, we must recognize that the scientific endeavor is more like a persuasive communication that requires humans both as communicators and recipients, while the methodology plays the role of the rhetoric.

Fortunately, and that makes this type of persuasion somewhat special, the recipients are highly critical and sophisticated, both about method and substance. As a consequence, convincing one's colleagues as editors, reviewers, readers, and to answer their sophisticated questions, meeting their scientific standards is a challengingly high obstacle to overcome. To be sure, this process does not end with the acceptance of a manuscript in a highly ranked journal. Even afterwards, the exchange goes on, explicitly and implicitly. Some publications get cited frequently; others will never be referred to.

Thus, instead of supporting moralistic pseudo-methodological standards, like storing one's original hypothesis in a locker (or in some functionally equivalent internet server), or reporting all of one's previous unsuccessful attempts at getting the results along with the subsequent modifications, I suggest that you simply have to report truthfully what you did, particularly all the potential determinants of subsequent responses. I admit that this may deviate from the basic tenets of inferential statistics, but who honestly believes that an alpha of .01 assures you that the probability of falsely rejecting the null hypothesis is one percent? Predominantly, P-values are indicators of reliability and are determined by the effect size and the n. Therefore, they serve an important goal in assessing the stability of a finding. As a consequence, the most direct replication is an increase in the n, or if one wants to take the effect size into account, the adoption of a more conservative p-level. Ironically, not so long ago, students had been educated that any desired p-level can be reached by increasing the n. Now, we learn that lenient p-levels provide circumstantial evidence for "questionable research practices".

Too much Wow, too little How

However, being skeptical about the healing power of certain methodological prescriptions does not imply an attitude of "everything goes". On a different dimension, it is much more important to advocate for a change, on a dimension that has been largely neglected in this debate (for an exception, see Ledgerwood & Sherman, 2012), namely the content and not the rhetoric of the persuasive communication.

Specifically, I have gained the impression that in many publications, the intended recipient of the persuasive communication is not the sophisticated, critical colleague but the journalist who formulates the headline in the newspaper. Journalists, however, are rarely interested in complicated methodological or conceptual issues. Instead, they want to get news they can sell. And this is mostly the simple, spectacular, surprising, bizarre, counterintuitive result. Man bites dog.

To be sure, surprising outcomes are often a byproduct of the search for psychological mechanisms and legitimate means to draw attention to the underlying mechanisms. But even then, the journalists' interest does not focus on the psychological process but on the unusual result. When we conducted our facial feedback study (Strack, Martin, & Stepper, 1988), the pen procedure was used to rule out a possible underlying mechanism. The

media, however, were mostly interested in the effects of the pen. Whenever I had talked to a journalist, I was asked about the possibility to treat depression with a pencil. And recently, I saw a summary of our work suggesting that "happiness is only a pencil away" (<http://www.mhfederation.co.uk/mhfederationvle/?p=1975>).

It seems as if in recent years, research in social psychology has been focused less on theoretical issues, particularly on the underlying processes, the "How?" of psychological phenomena. Instead, the focus has shifted to the collective "Wow!" that is elicited in the general public.

This goes along with a lack of understanding the underlying processes on a level that affords generalizations. An example is the failed replication of Bargh, Chen, and Burrows' (1996) study on stereotype induced behavioral activation. The failure to replicate the original result that activating the elderly stereotype (in the US) slowed down the speed of walking almost twenty years later in Belgium (Doyen, Klein, Pichon, & Cleeremans, 2012) has led to fervent (anonymous) attacks of the original study's senior author and to doubts about his scientific sincerity. To be sure, the obtained effect attracted media attention, but for a psychological scientist, it is the underlying mechanism that is newsworthy, namely the link between cognitive contents and behavioral habits. Nobody who is seriously interested in further exploring this relationship would expect that in times of demographic change, of increasing retirement ages and of public campaigns propagating "active aging", the elderly stereotype to still have the same implications as some 20 years ago in an entirely different context. It is therefore important to recognize that scientific progress in social psychology hinges less on the replication of specific phenomena but on demonstration of those universal underlying mechanisms that are responsible for producing them.

Why Wow?

There is reason to assume that newsworthy results are actively sought as various structural incentives and pressures contribute to this development.

- 1) The leading international *science magazines* are strongly oriented toward making an impact in the media. When a paper is submitted, its public interest is assessed first and used as a criterion for its entering the second stage of reviewing. Accepted articles are embargoed until the date of the publication. Then, press conferences are being held in which the most interesting articles are presented, accompanied by simplified summaries.
- 2) An increasing number of psychology journals are particularly focused on *short research articles*. Extensive theoretical discussions and the inclusion of data from several studies are discouraged and the repercussions of the findings in the media are closely monitored. Recently, APS has sent out an email in which the convention was advertised by drawing attention to lectures from "our headliners", speakers who have recently made it into the popular press.
- 3) Scientists increasingly include *media citations in their vitae*. There are tendencies to even consider their number as a criterion for annual pay raises. Magazines of the leading professional organizations (e.g., APS) list the presence of their members in the media.
- 4) Ph.D. students are encouraged to gain their *degree "publication based"*. Regulations often require a surprisingly high number of published articles.

All of those factors put a premium on short publications that are based on a minimum number of studies. At the same time, they discourage multiple experiments with lengthy conceptual discussions. As a consequence, the contribution to conceptual progress as a criterion is being replaced by the newsworthiness of the finding and its chances to find public attention.

The Costs

The resulting lack of conceptual development has some serious consequences:

- 1) *Generalization*. Isolated phenomena have little meaning beyond the circumstances under which they were obtained. Only a solid conceptual basis allows findings from one situation to be transferred to others that differ on various dimensions. Generalizations that go from phenomenon to phenomenon may come with the illusion of ecological validity. However, there is no theoretical basis that justifies the underlying inferences.
- 2) The same is true when it comes to translating our findings into *applications*. Similarities between the controlled situation of research and the real world may not be based of superficial characteristics do not justify interventions. Instead, it is the similarity of the underlying psychological mechanisms that provide the foundation for successful applications. Kurt Lewin's sentence of the practical implications of good theories has never been more appropriate.
- 3) *Replication/Reliability*. Although frequently demanded as the ultimate criterion of validity, replications in other laboratories are not popular for several reasons. First, there are statistical problems with rejecting the null-hypothesis. Even if this problem is solved or circumvented, little excitement comes from failures to replicate. As a result, journal editors are reluctant to publish such reports. More interesting are studies in which the nonreplication is integrated into a significant interaction in which the original effect obtains only if another condition is realized. Just like a conceptual replication, such an approach requires a theoretical basis that allows identifying the conditions under which the phenomenon does or does not occur. If this is not possible, the validity of the phenomenon may never be established on a solid and sustained level because it is not fueled by the trust in the underlying processes.
- 4) *Scientific progress*. Under a conceptual orientation, progress means a deeper, more inclusive understanding that goes far beyond the result of a particular study. In contrast, phenomenon-based research generates an illusion of progress that is based on new and even more surprising findings, once the excitement about a particular result has vanished. In the end, social psychology as a field may become a collection of curious phenomena while progress is measured by their number.
- 5) Finally, the pressure to obtain interesting findings, particularly for Ph.D. students, may facilitate *scientific misconduct*. From my days as a postdoc I remember very well how Bob Wyer would sit down with his graduate students to make sense of complicated 5-way interactions that had not been predicted. Typically, and always after considerable brooding over the pattern, a smile would pass over his face he would suddenly burst out "that's the way it should be!" Although I am not sure this was always the case, encouraging students to comprehend their data by allowing a conceptual reinterpretation that may then lead to a new experiment was an important intellectual exercise for any future academic. Of course, these results never made the headlines, but dealing with them has taught students that even a result that is unexpected and difficult to explain may be valuable and contribute to a better understanding.

Less Wow and More How in Social Psychology

I am not advocating restraint vis-a-vis the media. But I think social psychologists should try harder to communicate their ideas. Cute and newsworthy phenomena may be effective vehicles to get one's ideas across, but if they stand alone, they may end up as curiosities whose generators may be admired as magicians or entertainers, but always with an aura of frivolity and accompanied by suspicion.

In a nutshell, I am advocating less *Wow* and more *How* in social psychology. The need to talk to the media should not lead us to adopt their criteria, namely "newsworthiness" instead of explanation and understanding. The attention of the media is exciting and rewarding on many dimensions. But if we achieve it by trying to be sensational in our findings without aiming at the underlying processes, then the short-term publicity will backfire at a later time.

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