Forum Paper

PsychOpen GOLD

Social Psychological Bulletin
Psychologia Społeczna

The Task of Social Psychology Is to Explain Behavior not Just to Observe it

Wolfgang Stroebe[1]

[1] *University of Groningen, Groningen, Netherlands*

Corresponding author: Wolfgang Stroebe (Department of Social and Organizational Psychology, University of Groningen, Grote Kruisstraat 2/1. 9712 TS Groningen, Netherlands. E-mail: wolfgang.stroebe@gmail.com)

Received: 4 February 2018 • **Published:** 29 May 2018

Citation: Stroebe, W. (2018). The task of social psychology is to explain behavior not just to observe it. *Social Psychological Bulletin*, *13*(2), Article e26131. https://doi.org/10.5964/spb.v13i2.26131

Abstract

Doliński (2018, this issue) deplores the decline of behavior observation in social psychology since the 1960's and asks whether (social-) psychology is still a behavioral science. I question both, that there was a decline and that direct behavior observations are essential for a science of behavior. After all, behavior can also be inferred from outcomes and other traces of behavior. During the alleged heydays of behavioral observation, social psychology was threatened by a crisis partly precipitated by Wicker's (1969) demonstration that verbal attitude measures were often unrelated to behavioral responses towards attitude objects. His critique was devastating, because social psychology at that time relied heavily on rating scales as dependent measure. The advance of the social cognition movement in the 1970's was to provide social psychology with new techniques (e.g., priming, cognitive load, reaction time techniques) that eased the reliance on rating scales. At the same time, it became insufficient to merely show a relationship between an external event and a behavioral response and to rely on speculations about the internal processes that might have been responsible for this relationship. Instead, studies had to assess the cognitive and motivational processes assumed to link those external events, typically – but not always – using social cognition techniques. This required additional studies leading to a decline in the *proportion* of studies reporting behavioral observations. I illustrate this development with one of my own research programs and also suggest that in this example an outcome may be a more valid measure of behavior than behavioral observations.

Keywords

behavioral observations; behavioral outcomes; cognitive revolution; crisis of social psychology; social cognition; goal conflict model of eating behavior

Doliński (2018, this issue) addresses the question whether psychology is still a science of behavior. He builds on an article by Baumeister, Vohs, and Funder (2007) who deplore the decline of observations of actual behavior in social psychology. They based this conclusion on a comparison of the January 2006 issue of the *Journal of Personality and Social Psychology* to earlier issues going back as far as 1966. They remind us of real world behavioral studies conducted in the sixties and seventies of the last century, such as Darley and Latané's (1968) research on bystander intervention or Milgram's (1975) obedience studies, research that would probably not pass departmental ethics committees these days. In commenting on these articles, I will make two points. First, I question the historical accuracy of their analysis. Second, I will argue that the main task of social psychology is not to observe behavior, but to explain it. And for that we do not always have to observe it directly. Behavioral outcomes and other traces of behavior can be valid indicators.

Were the 60's and 70's Truly Heydays of Behavior Observation in Social Psychology?

I taught my first social psychology course in 1968 and continued teaching it nearly every year until I retired from teaching in 2006. I have no memory of social psychology being more awash with studies observing behavior in the 60's and 70's than it is now. Furthermore, this period was the time of a major crisis in social psychology with the relevance of social psychology being questioned on both philosophical (e.g., Gergen, 1973) and empirical grounds (e.g., Ring, 1967; Wicker, 1969). In one of the earliest critiques entitled "Experimental social psychology: Some sober questions about some frivolous values" Ring (1967) compared the vision of Kurt Lewin that social psychology would contribute to the solution of important social problems with what he called the "fun and games" attitude of the social psychology of his days. This characterization appears inconsistent with the nostalgic description of a social psychology focused on the observation of real life behavior, which somehow implies that these observations resulted in socially relevant findings. However, this crisis of social psychology was not only about social relevance but also about social psychology's reliance on rating scales. In an article entitled "Attitudes versus actions – relationship of verbal and overt behavioral response to attitude objects", Wicker (1969) drew the devastating conclusion that it was considerably more likely that attitude measures would be unrelated to behavior rather than closely related to actions.

I do not only disagree with the idealization of the 1960's and 1970's as the heydays of behavioral observations in social psychology, but also with the characterization of present day social psychology as a science based on questionnaire responses of people describing, how they would behave in some hypothetical situation. The great advance of the social cognition movement that began in the 1970's was not only the adoption of a different conceptual terminology (reflecting concerns with issue of "retrieval", "encoding", "storage") it also provided social psychologists with a set of new techniques (e.g., priming, cognitive load, reaction time techniques) that helped to wean them from their overreliance on rating scales.

So how can my memory be so discrepant from the results of the empirical analysis of the various issues of JPSP reported by Baumeister et al. (2007). One reason could be the empirical methodology these authors employed. It would have been wise to sample a wider range of social psychology journals and not only two issues per decade of a specific journal. Another explanation could be the growth of social psychology during the decades under discussion. Whereas there was little social psychology in Europe before the mid-sixties, nearly every European university has a department of social psychology today (Kruglanski & Stroebe, 2012). During the same period, US social psychology also underwent an enormous growth. Since both Baumeister et al. (2007) and Doliński base their conclusion on the *proportion* of observational studies reported in JPSP over time, it is possible that the absolute number of observational studies remained constant, but that number of studies that examined internal processes increased.

The Main Task of Social Psychology Is Behavior Explanation

As a result of the cognitive revolution, the Neo-Skinnerian approach of conducting studies that link behavioral observations to external events, without attending to internal processes, is no longer sufficient. Journals require that authors provide information about the cognitive and motivational processes that were responsible for - or contributed to - behavior that is either observed or inferred from some relevant outcome or behavioral trace. Since assessing these processes typically requires additional studies, even articles that include behavior observations usually report several studies that examined internal processes. I would like to illustrate this with one of my own research programs, my research on eating behavior (Stroebe, 2018; Stroebe, van Koningsbruggen, Papies, & Aarts, 2013). During the course of this research, I moved from conducting observational studies to assessing internal processes using social cognition techniques.

I became interested in research on eating, because I was fascinated by the boundary model for the regulation of eating of Herman and Polivy (1984). This model had been developed to explain the difficulties chronic dieters experience in maintaining a calorie-reduced diet. It assumes that biological pressures keep food intake within a certain range, but that between these two boundaries, eating is determined by psychological processes. Because chronic dieters typically attempt to limit their food intake according to some dieting goal, they are continuously overruling their bodily feed-back. As a result, they lose contact with their bodily signals of hunger and satiety and rely exclusively on cognitive control mechanisms.

The preferred method for testing this theory were studies on eating behavior (e.g., Heatherton, Herman, & Polivy, 1991; Vohs & Heatherton, 2000) that receive favorable mention by Baumeiser et al. as example of research using behavioral observations. In these studies, participants are told that they have to rate the taste of very palatable food items, often ice creams differing in flavor. However, researchers are not interested in these ratings, but in the amount of ice cream eaten by participants under different experimental conditions. For example, Heatherton et al. (1991) put chronic dieters and normal eaters under

ego threat and demonstrated that this threat disinhibited the eating behavior of chronic dieters compared to normal eaters. Vohs and Heatherton (2000) showed the same disinhibition following an ego-depletion manipulation.

These disinhibiting effects are assumed to be due to these manipulations interfering with chronic dieters' motivation or ability to cognitively control their food intake. Because cognitive load would constitute a more direct way of interfering with chronic dieters' cognitive control of their eating, we conducted several studies that assessed the impact of cognitive load on the amount of ice cream eaten by chronic dieters and normal eaters (Boon et al., 1997; Boon et al., 2002). After failing to find an effect in the first two studies (Boon et al., 1997), we decided to manipulate also the perceived calorie content of the ice cream. And indeed, under cognitive load chronic dieters (compared to normal eaters) would eat more ice cream described as "extra creamy", but not ice cream described as low in calories (Boon et al., 2002). At the time, we explained this effect in terms of Wegner's ironic process theory, without having been able to assess any of the "ironic" processes assumed to be responsible for this effect.

This last result made me wonder whether it was not the tastiness of food that made it difficult for restrained eaters to keep to their diet. Being a chronic dieter myself, it was apparent to me that my own problem with dieting was my affection for tasty food. Framed in goal-theoretical language, my difficulty in eating control was due to my pursuit of two conflicting goals, namely the goal of eating enjoyment and the goal of calorie control. As long as I was in environments devoid of tasty food stimuli, I had no difficulty in pursuing the eating control goal. However, when entering a food-rich environment, my eating enjoyment goal would be primed and would often become the dominant goal. This suggested that chronic dieters, asked to taste extremely tasty food such as ice creams of different flavor, would find it challenging to pursue their eating control goal and would fail under conditions of cognitive load.

Since the goal conflict model made the same predictions as the boundary model with regard to the effect of cognitive load on eating, but assumed different psychological mechanisms, continuing to do studies of eating behavior did not seem to be an effective research strategy anymore. Such behavioral studies would not allow us to test the different psychological mechanisms assumed by the two models to result in the loss of control of chronic dieters. To test the goal conflict model, we therefore conducted studies that used social cognition methods and did not involve behavior observations. Our first study tested the prediction that exposure to attractive food items would reduce the cognitive accessibility of eating control thoughts (Stroebe, Mensink, Aarts, Schut, & Kruglanski, 2008). We primed normal eaters and chronic dieters subliminally either with words representing tasty food items or with neutral words. We used a lexical decision task to assess the effect this manipulation had on eating control thoughts. In support of the goal conflict model, priming chronic dieters with attractive food words rather than neutral words increased the time they needed to recognize dieting related concepts (e.g., weight loss, dieting). No such effect could be observed for normal eaters. This finding could not be explained by the boundary model.

We followed this study up with a series of social cognition studies that assessed various predictions derived from the goal conflict model. For example, using the probe recognition task, Papies, Stroebe, and Aarts (2007) demonstrated that priming participants with words representing tasty food increased the accessibility of thoughts about tastiness in chronic dieters but not in normal eaters. In another study that applied the visual probe paradigm, Papies, Stroebe, and Aarts (2008) showed attentional bias towards attractive food in chronic dieters but not in normal eaters. Finally, Hofmann et al. (2010) used the affect misattribution paradigm to demonstrate that even though attractive food stimuli elicit the same hedonic responses in chronic dieters as in normal eaters, these hedonic responses subside in normal eaters but linger on in chronic dieters. Chronic dieters seem unable to get the attractive food out of their minds.

So what about behavior? Since we had demonstrated that it was the dominance of eating enjoyment over eating control thoughts that was responsible for the problems chronic dieters experience in keeping to their diet, we decided to conduct studies in which we used implementation intentions to reestablish eating control thoughts in chronic dieters tempted by palatable food (van Koningsbruggen, Stroebe, Papies, & Aarts, 2011). In an experimental condition, participants were instructed to form the implementation intention that, if confronted with one of five very attractive food items (e.g., chocolate, pizza) over the next two weeks, they would think of dieting. In the control condition, the "if part" was the same, but the "then part" consisted of "then I will not eat it". According to the goal conflict model, only the first implementation intention would help chronic dieters to resist the temptation. To test this prediction, participants were (unexpectedly) re-contacted two weeks later and asked how much and how often they had eaten the five attractive food items. In support of our predictions, participants in the experimental condition had eaten less than those in the control condition.

Believers in the importance of studies that involve observation of real behavior will not be convinced by this study, which they will see as a typical example of research based on self-reports. We therefore conducted a further study, again inducing implementation intentions, but replacing observed behavior with actual behavior (van Koningsbruggen, Veling, Stroebe, & Aarts, 2014). Whereas participants in the experimental condition were instructed to form the implementation intention to think of their diet when tempted by sweets, participants in the control condition formed an irrelevant implementation intention. Returning the next day, they were asked to taste several different sweets. In line with predictions, participants, who had formed the "think of dieting" implementation intention ate significantly fewer sweets than participants, who had formed the irrelevant implementation intention.

Yet I consider a later study, in which no behavior was observed, the most convincing test of the behavioral predictions of the goal conflict model (Veling, van Koningsbruggen, Aarts, & Stroebe, 2014). It was an internet study in which non-student participants, who wanted to lose weight, received four weekly a training session in which they formed implementation intentions. They were asked to think of all the meals they consumed during

a day and then to make a specific plan with regard to the best moment in time to remind themselves of dieting. In the control condition, participants were asked to form the irrelevant implementation intention. The dependent measure in this study was not behavior, but an outcome, namely weight loss during the four weeks. Participants had been weighed at the beginning of the study and were again weighed at the end. Consistent with predictions, participants in the experimental condition had lost significantly more weight than those in the control condition. The fact that participants in the experimental condition lost significantly more weight than those in the control condition is to me more convincing than any observational data of their eating behavior would have been. Even if it had been possible to observe the eating behavior of this group for all their meals during a four-week period, these observations would have been error-prone. Furthermore, the knowledge of being observed would have influenced their actual behavior of these participants. Thus, behavioral outcomes are often a better measure of behavior than actual behavior observation.

Funding

The author has no funding to report.

Competing Interests

The author has declared that no competing interests exist.

Acknowledgements

The author has no support to report.

References

Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-reports and finger movements. *Perspectives on Psychological Science*, *2*(4), 396–403. https://doi.org/10.1111/j.1745-6916.2007.00051.x

Boon, B., Stroebe, W., Schut, H., & Ijntema, R. (2002). Ironic rocesses in eating behaviour of restrained eaters. *British Journal of Health Psychology*, *7*(1), 1–10. https://doi.org/10.1348/135910702169303

Boon, B., Stroebe, W., Schut, H., & Jansen, A. (1997). Does cognitive distraction lead to overeating in restrained eaters? *Behavioural and Cognitive Psychotherapy*, *25*(4), 319–327. https://doi.org/10.1017/S1352465800018725

Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*, *8*(4, Pt.1), 377–383. https://doi.org/10.1037/h0025589

Doliński, D. (2018). Is psychology still a science of behaviour? *Social Psychological Bulletin, 13*(2), Article e25025. https://doi.org/10.5964/spb.v13i2.25025

Gergen, K. J. (1973). Social psychology as history. *Journal of Personality and Social Psychology*, *26*(2), 309–320. https://doi.org/10.1037/h0034436

Heatherton, T. F., Herman, C. P., & Polivy, J. (1991). The effects of physical threat and ego threat on eating. *Journal of Personality and Social Psychology*, *60*(1), 138–143. https://doi.org/10.1037/0022-3514.60.1.138

Herman, P., & Polivy, J. (1984). A boundary model of the regulation of eating. In A. J. Stunkard & E. Stellar (Eds.), *Eating disorders* (pp. 141-156). New York, NY, USA: Raven Press.

Hofmann, W., van Koningsbruggen, G. M., Stroebe, W., Ramanathan, S., & Aarts, H. (2010). As pleasure unfolds: Hedonic responses to tempting food. *Psychological Science*, *21*(12), 1863–1870. https://doi.org/10.1177/0956797610389186

Kruglanski, A. W., & Stroebe, W. (2012). The making of psychology. In A.W. Kruglanksi & W. Stroebe (Eds.), *Handbook of the history of social psychology* (pp. 3-18). New York, NY, USA: Psychology Press.

Milgram, S. (1975). *Obedience to authority*. New York, NY, USA: Harper & Row.

Papies, E., Stroebe, W., & Aarts, H. (2007). Pleasure in the mind: Restrained eating and spontaneous hedonic thoughts about food. *Journal of Experimental Social Psychology*, *43*(5), 810–817. https://doi.org/10.1016/j.jesp.2006.08.001

Papies, E., Stroebe, W., & Aarts, H. (2008). The allure of forbidden food: On the role of attention in self-regulation. *Journal of Experimental Social Psychology*, *44*(5), 1283–1292. https://doi.org/10.1016/j.jesp.2008.04.008

Ring, K. (1967). Experimental social psychoogy: Some sober questions about some frivolous values. *Journal of Experimental Social Psychology*, *3*(2), 113–123. https://doi.org/10.1016/0022-1031(67)90016-9

Stroebe, W., Mensink, W., Aarts, H., Schut, H., & Kruglanski, A. (2008). Why dieters fail: Testing the goal conflict model of eating. *Journal of Experimental Social Psychology*, *44*(1), 26–36. https://doi.org/10.1016/j.jesp.2007.01.005

Stroebe, W., van Koningsbruggen, G. M., Papies, E. K., & Aarts, H. (2013). Why most dieters fail but some succeed: A goal conflict model of eating behavior. *Psychological Review*, *120*(1), 110–138. https://doi.org/10.1037/a0030849

Stroebe, W. (Ed.). (2018). *The goal conflict model of eating behavior*. Abingdon, United Kingdom: Psychology Press.

van Koningsbruggen, G. M., Stroebe, W., Papies, E. K., & Aarts, H. (2011). Implementation intentions as goal primes: Boosting self-control in tempting environments. *European Journal of Social Psychology*, *41*(5), 551–557. https://doi.org/10.1002/ejsp.799

van Koningsbruggen, G. M., Veling, H., Stroebe, W., & Aarts, H. (2014). Comparing two psychological interventions in reducing impulsive processes of eating behaviour: Effect on self-selected portion size. *British Journal of Health Psychology*, *19*(4), 767–782. https://doi.org/10.1111/bjhp.12075

Veling, H., van Koningsbruggen, G., Aarts, H., & Stroebe, W. (2014). Targeting impulsive processes of eating behavior via the internet: Effects on body weight. *Appetite*, *78*, 102–109. https://doi.org/10.1016/j.appet.2014.03.014

Vohs, K. D., & Heatherton, T. F. (2000). Self-regulatory failure: A resource depletion approach. *Psychological Science*, *11*(3), 249–254. https://doi.org/10.1111/1467-9280.00250

Wicker, A. W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. *The Journal of Social Issues*, *25*(4), 41–78. https://doi.org/10.1111/j.1540-4560.1969.tb00619.x