

claims, “I mean you’ve got to experiment, and *experiment with your own life!* Not just sit back – not just sit back in an ivory tower somewhere – as if your own life weren’t all mixed up in it.”

Can the process of experimentation lead to greater happiness?

Simon C. Moore^a and Joselyn L. Sellen^b

^aDepartment of Psychology, Warwick University, Coventry CV4 7AL, United Kingdom; ^bSchool of Psychology, Cardiff University, Cardiff CF10 3YG, United Kingdom. mooresc2@cardiff.ac.uk
www.warwick.ac.uk/psych sellenjl@cardiff.ac.uk
www.cardiff.ac.uk/psych

Abstract: We argue that the self-experimentation espoused by Roberts as a means of generating new ideas, particularly in the area of mood, may be confounded by the experimental procedure eliciting those affective changes. We further suggest that ideas might be better generated through contact with a broad range of people, rather than in isolation.

Roberts claims to have found a novel association between television watching and his affective state at a later time. Despite Roberts’ excellent experimental method, we would like to offer an alternative perspective that suggests the change in affect might be attributable to the process of experimentation itself.

Research into human affect has produced one seemingly robust and intuitive relationship: unexpected, rather than expected, increases in personal wealth elicit the greatest positive changes in one’s affective state. In the case of money, people who receive an unexpected windfall report greater levels of happiness for up to one year after the event (Gardner & Oswald 2001), and unexpectedly finding a dime on a vending machine also elicits an improvement in participants’ positive mood (cf. Schwarz & Strack 1999). To generalise, one could imagine that an unexpected increase in any valued commodity, be it money, status, even knowledge, could have the same effect. We argue that ideas represent high-value items for Roberts and that their discovery may lead to his greater happiness, rather than watching television in and of itself.

Roberts places a high value on ideas, as evidenced in his paper’s introduction. Therefore, it appears reasonable to assume that, for Roberts, ideas may be considered analogous to other high-value items such as money and, as with those who receive an unexpected windfall, one might imagine that the discovery of a potentially fruitful association, or idea, could also elicit feelings of happiness. Although there has been no specific research on how the scientific process might elicit affective changes in scientists, it would appear intuitive to make such a connection, one that might offer an alternative explanation of Roberts’ findings. Although our line of reasoning, that scientific discovery may elicit happiness, rests primarily on intuition and an analogous relationship between ideas and money, there is some indirect evidence supporting this claim. When the King of Syracuse instructed the mathematician Archimedes to investigate the material his crown was made of, it was not until Archimedes stepped into his bath and discovered that his bulk displaced an equal volume of water that he believed he had found a means of addressing the King’s request. Not only was this an important scientific discovery, but it has also become synonymous with the happiness scientific discovery can bring. However, and importantly, it was Archimedes’ belief that he had found a solution to the King’s problem that elicited his happiness; as he leapt from his bath, he had not formally tested his theory. Could the prospect of a “Eureka” moment also have elicited happiness for Roberts?

Roberts became aware of an increase in his positive feelings *before* seeking its cause. The only plausible event that might be associated with his elevated mood appeared to be his television viewing on the preceding day (for the sake of argument, we will assume this was a random fluctuation in mood). The hypothesis to

be tested became the relationship between television viewing and happiness: If watching television does increase happiness then, “Eureka,” a new scientific discovery. This process, however, creates an important issue specific to the process of self-experimentation: Roberts, the participant, must have been aware of the hypotheses and aware of the manipulations he subjected himself to, and the value of such a finding. In other words, his anticipation of an important discovery may have led to an increase in positive affect, which was then falsely attributed to television watching (a similar argument can be applied to that period where positive affect was diminished, during the evening following watching television on day one, where there should be, according to Roberts’ expectations, no evidence for a discovery).

We argue that the fluctuations in Roberts’ mood may have been in consequence of the experimental process he engaged in, which, to generalise, may lead to questions surrounding the place of self-experimentation more generally. Being both observer and participant, we suggest, led Roberts the scientist to infer that feelings elicited by engaging in the scientific process were attributable to Roberts the participant, a claim that may go beyond research in mood. Are there means of generating ideas that might be less open to confound? We now suggest that there is already an abundance of ideas and that seeking means of developing new ideas is unnecessary.

One option to generate ideas may be simply to talk to people (Simon & Kaplan 1989). Although some important work has been conducted in solitary (e.g., Descartes 1637/1931), one does not have to go too far before finding people in applied settings who have an abundance of ideas, generated through observing real world behaviour, that are eminently researchable, but who have neither the time nor the resources themselves to test these ideas. One area proving fruitful is research that uses a form of protocol analysis (Simon & Kaplan 1989) with criminal offenders (McMurrin & Sellen, in preparation). For example, there has been no systematic study into the motivations behind habitual offenders’ decision to stop offending and their motivation to lead crime-free lives. McMurrin and Sellen have started to examine, through interviews with offenders themselves and with practitioners in the forensic setting, the reasons behind offenders’ switching their behaviour. Although the qualitative data is wide-ranging and broad, it is already providing novel insights (ideas) as yet not addressed in the experimental literature and that will ultimately lead to future experimental work. An advantage of this approach over self-experimentation is that there is little involvement of the researchers in recognising and describing areas of inquiry, but it is still close to the real-world behaviours to be researched.

In sum, we argue that self-experimentation, in the area of mood, may be confounded by the experimental procedure. We further suggest that ideas might be better generated through contact with a broad range of people in an applied setting where there is a great need for research and an already established means of analysis.

Experimentation or observation? Of the self alone or the natural world?

Emanuel A. Schegloff

Department of Sociology, University of California at Los Angeles, Los Angeles, CA 90095-1551. schegloff@soc.ucla.edu
http://www.sscnet.ucla.edu/soc/faculty/schegloff/

Abstract: One important lesson of Roberts’ target article may be potentially obscured for some by the title’s reference to “self-experimentation.” At the core of this work, the key investigative resource is sustained and systematic observation, not experimentation, and it is deployed in a fashion not necessarily restricted to *self-examination*. There is an important reminder here of a strategically important, but neglected, relationship between observation and experiment.

Roberts' target article makes for compelling reading. Aside from its intriguing substantive results, it is a striking story of dedicated inquiry. Unhappily, the number of readers who are prepared to commit themselves to such a path in the future is surely limited, to say the least. So, admiring recruits aside, what other benefits and lessons are to be derived from this article? To my mind, one important potential lesson is obscured by the title. Rather than *self-experimentation* being the hero of this tale, *self-observation* is, and in a fashion which extends to include much naturalistic observation without limitation to "self."

As I read it, the text of the target article confirms the problematic observation with which it begins – that experimentation is best suited for *testing* new ideas, not for *getting* them. Most of the "experimenting" reported in the article is employed to test an observation or observed relationship, to chart its limits and variations, and so forth. But in most cases, a new direction is triggered not by the "experimentation" in the experiment, but by an *observation* (a "noticing" [sect. 2.5.2, para. 2], a "realization" [sect. 2.6.2, para. 1], a "noticing for the first time" [sect. 2.6.2, para. 3]), and, importantly, on a matter *other than what the experiment was oriented to examining*. Such telling observations which led to a reorientation of inquiry concerned not just the "value" of some variable or the strength of some relationship, but also the sort of variable or relationship that turned out to matter in the first place – as, for example, during experimentation with the effect of standing on weight loss (which was *not* exciting), Roberts' noticing that standing had an effect on sleep duration (target article, sects. 2.4.2, para. 3; 2.4.3, paras. 1–3, 11).

Roberts' account of the efficacy of self-experimentation in generating new ideas is that it produced "accidents" (unexpected observations) and made him think. In what sense were they "accidents," if they turned out to be naturally orderly phenomena? There are two senses:

1. Whereas "conventional experiments can rarely detect change on a dimension not deliberately measured" (sect. 4.2, para. 8), Roberts was able "to detect changes on dimensions that are not the focus of interest" (ibid.). Not having been measured, then, supplies one sense of "accident."

2. The very act of being attentive to one's surroundings and activities in a non-dismissive, open way allows anything potentially to "count." Thus: "Because I was recording sleep and breakfast on the same piece of paper, the breakfast/early awakening correlation was easy to notice" (sect. 2.2.2, para. 4). Neither of these sources of "accidents" has fundamentally to do with self-experimentation, though that is how Roberts happened to encounter them.

Indeed, these are not accidents at all, they are surprises; their "extraordinariness" is not a feature of their occurrence but of their being encountered – and *registered* – and *taken seriously* in a scientific sense – by the investigator. They occur because of a sort of inquiry in which what one thought before does not limit what one is allowed to "see and count" now. What Roberts was practicing was a form of orderly, disciplined, careful, and thought-through naturalistic observation, in which the very fact of close, careful observation allowed the connections and orderliness of everyday activities to become "remarkable." In his case, it was self-observation, but that does not strike me as criterial. There is quite a lot in human behavior that lends itself to this way of proceeding; unhappily it is only rarely taken seriously in contemporary psychology and cognitive science. In the spirit of Roberts' inquiry, I offer one episode from my own experience, with a suggestion for further reading.

Several years ago, a "friendly" psychologist/cognitive scientist refereeing a conference presentation of mine for a volume reporting the conference proceedings contrasted my "descriptive" and "post hoc" account with what more rigorous colleagues in cognitive science would want to see before having any confidence in it, but it seemed to me that the formal experimental testing that he proposed was insufficiently grounded in the target data, relied on the assessments of naïve (i.e., scientifically untrained) judges deploying the very "subjective" judgments for which trained, repeated, and systematic observation had just been called to task.

(The friendly referee's comments and my responses to them appear in a postscript/appendix to my paper [Schegloff 1996], available at my website.)

The lesson to be learned from Roberts' work is institutional and disciplinary. If disciplines which are largely experimental in method granted those which are largely observational the courtesy of serious attention and uptake, many such "accidents" might fall into our collective laps. Once there, experiments could be used to test them. Of course, *nonexperimental* methods – including observational ones – can also be used to *test* new ideas, not just *get* them. But that is another commentary.

Ideas galore: Examining the moods of a modern caveman

Peter Totterdell

*Institute of Work Psychology, University of Sheffield, Sheffield, S10 2TN, England. p.totterdell@sheffield.ac.uk
http://www.sheffield.ac.uk/~iwp*

Abstract: A self-experiment by Roberts found that watching faces on early morning television triggered a delayed rhythm in mood. This surprising result is compared with previous research on circadian rhythms in mood. I argue that Roberts' dual oscillator model and theory of Stone-Age living may not provide the explanation. I also discuss the implications of self-experiments for scientific practices.

One means of achieving good sleep, mood, health, and weight is to live life as you might have done in the Stone-Age. This is the key claim behind Roberts' extraordinary set of self-experiments described in the target article. His examples of modern Stone-Age living include watching breakfast television, absorbing early morning daylight, delaying breakfast, eating sushi, drinking unflavored sugar water, and standing most of the day. I will comment on Roberts' more general point concerning methods for idea generation. First, however, I will focus on the explanation for what is perhaps the least intuitive finding from Roberts' set of experiments, namely, that watching faces on early morning television triggered a rhythm in his mood that commenced about 12 hours after stimulus and lasted approximately 24 hours.

An interesting feature of Roberts' delayed mood rhythm is that it was triggered by exposure to faces in the morning but was wiped out by exposure to faces in the evening. This suggests that the rhythm would be masked under normal conditions, because the timing of exposure to faces would normally be unrestricted. Research indicates that circadian rhythms in happy mood are also masked under normal conditions, but that they are revealed in specific circumstances, such as during depression (Haug & Wirz-Justice 1993), early infancy (Totterdell 2001), and extended sleep-wake cycles (Boivin et al. 1997). Two factors that appear to be important in revealing the happy rhythm are reduced reactivity to external events and the misalignment of the circadian pacemaker with the sleep-wake cycle. Roberts' abstinence from evening interaction and experience of sleep difficulties could therefore be relevant to his mood rhythm.

Closer inspection of Roberts' mood data suggests that both morning and evening faces caused a trough in mood about 18 hours after the stimulus. It is therefore plausible that the mood oscillation was dependent only on the social zeitgeber rather than being gated by a light-sensitive clock, as Roberts suggests. Roberts also uses his mood rhythm to propose that sleep and wakefulness are controlled by the joint action of a light-sensitive oscillator and a face-sensitive mood oscillator. Other research would suggest a different model. It is known, for example, that behaviors regulated by a circadian clock can feed back on the pacemaker (Wehr 1990b). Roberts' mood rhythm followed the same time course as the endogenous circadian rhythm in happy mood described by Boivin et al. (1997), so perhaps face exposure amplified that