New Ideas in Psychology 36 (2015) 38–49

Contents lists available at ScienceDirect

New Ideas in Psychology

journal homepage: www.elsevier.com/locate/newideapsych

The challenges and opportunities of first-person inquiry in experimental psychology

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Keywords:
Experimental psychology
Methodology
First person exploration

A B S T R A C T

Psychology is concerned with outward (behavioural) and inward (mental and experiential) dimensions of inquiry. To study behaviour, psychologists are equipped with a comprehensive repertoire of measurement instruments. These instruments are not well suited to study the qualitative nature of inner experience, however: they yield data which, by their very nature as symbolic representations, abstract away from the primary phenomenon. To study qualitative experience, it would hence appear logical to engage a first-person, introspective method of inquiry. Psychology has a turbulent relationship to introspective research, however. In this article we review the concerns regarding the introspective approach; delineate the strengths – and also the limitations – of the experimental method; and, critically, outline a hybrid approach towards studying experience by exploring how important ingredients of the experimental approach can be transferred to the study of qualitative experience. This approach is a methodological proposal rather than an epistemological or ontological defence of introspection.

1. Introduction

Most definitions of psychology include two central components that feature prominently not only in the expert literature but even in many undergraduate textbooks: psychology is the science of behaviour and the human mind. In a recent volume, three eminent psychologists define these two components to the point: Behaviour refers to the "observable actions of human beings and nonhuman animals"; mind refers to "our private inner experience of perceptions, thoughts, memories and feelings" (Schacter, Gilbert, & Wegner, 2011, pg. 5).

The study of both behaviour and experience has been – and continues to be – prevalent in the psychological sciences. But while theoretical conceptions (and questions) in both domains have radically developed over the past years, the methods used to address them have not kept up a corresponding pace and in many ways are still firmly grounded in the behaviourist tradition: even when it comes to studying experiential qualities, our methodological repertoire focuses on describing and evaluating the associated observable expression – i.e. their *behavioural* signature. Be it by measuring real-life actions, error rates, eye movements, cerebral blood-flow or the firing pattern of nerve-cells (to name only a few), we still capture facets of behaviour, irrespective of whether they are more macro- or microscopic in nature. With this class of measurements we are in an excellent position to intercept the most subtle and intimate expressions of behaviour but inevitably focus our analysis on a certain category of phenomena – namely those that can be expressed as behaviour and become observable to the outside world as action patterns in one way or another. Traditionally we take, for instance, a third-

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http://dx.doi.org/10.1016/j.newideapsych.2014.09.001
0732-118X/

person approach to studying qualitative aspects of consciousness and this can without doubt be meaningful in many cases but often enough it is also a limitation: the actual experience is translated or encoded into a symbolic format (data and even linguistic expressions are symbols) that inevitably abstracts away from first-hand experience.

To be sure, there is nothing wrong with looking at the physiological signature or behavioural correlate of such private inner experiences, in particular as long as the study of first-person experience is still a tentative endeavour. Whether or not it has to be, is a question of its own that we will return to shortly. What is important to realize, however, is that with this form of research we still take a behavioural approach to studying human experience: an approach that is designed to capture facets of outer behaviour is now used (or more precisely: misused) to study inner experience. It is this latter aspect which in many ways is reductionist and problematic. By reducing our inquiry into human experience to a measurement of behavioural expression, we risk leaving a significant dimension out of sight and in turn work with a one-sided picture of reality.

In this paper we will explore how the study of experience can be approached by complementing a third-person with a first-person mode of inquiry. Rather than providing an ontological or epistemological defence of introspection, the goal of this article is to illuminate the potentials of enquiring into first-person experience as a methodological tool that can be used to advance the understanding of a psychological concept or process. Our account is structured into different sections: In the section following this introduction we will explore the historic tensions surrounding first-person methods and outline the potential promise of a rigorously conducted form of first-person research (Section 2). To examine what such a rigorous form could be, we will then refer to the four central paradigms that experimental research is based on and discuss how these can be applied to first-person research (Section 3). We will next use a concrete example to illustrate areas where exclusive third-person research is one-sided (Section 4). Following this, the centerpiece of the article is a proposal for a systematic extension of experimental research towards a first-person mode of inquiry in five steps (Section 5). A practice-trial is provided as an example to illustrate this approach (Section 6).

We begin, however, by outlining why we see this topic to be of particular relevance to experimental psychology.

1.1. The relevance of the theme to experimental psychology

As experimental psychologists we work with phenomena that partly manifest as behaviours but that also have an experiential side – such as the already referenced "private inner experience of perceptions, thoughts, memories" (Schacter et al., 2011, pg. 5).

In dealing with the *behavioural* side of a psychological phenomenon, we often refer to cognitive processes that supposedly account for these behavioural expressions – for example processes of "attention regulation", "executive function" or "regulatory control". But in speaking of such processes, we already venture into the territory of *experience* because these processes cannot be directly observed. We can only gain further insight into them via a) first-person experience – and this is the direct form of insight; or b) via third-person observation – and this is the indirect form of insight because the processes are now *inferred* from behavioural observations and data. As long as we work only with behavioural observations and the resulting data, we first have to consult our own experience to understand what such observations/data really mean. Without this reference to our own experience, third-person data would remain a closed book. This subject is rather important because it points to a fundamental issue: That a psychological phenomenon cannot be understood without calling on our own first-person experience to begin with. It is important to take note of the categorical distinction between the dimensions in which physical phenomena can be described (blue, red, heavy, etc.) and in which experiential phenomena can be described (e.g. ideas are vague, confused etc.). It would be a fundamental error to try and describe one aspect with the labels and categories of the other. In this same sense, it is misleading to pretend to be describing the full scope of a psychological phenomenon when in reality only describing the physiological/behavioural expression or facet of the phenomenon. We will not actually know what we are talking about when we only consider the behavioural expressions of experience, not the experience proper. When we really know what we are talking about, we have inevitably consulted our first-person experience. And yet we typically do not name it as such – and instead of working with the reality of experience, we designate a psychological entity (e.g. "working memory") to take on this role. But these entities remain abstractions as long as they are not grounded in an actual insight into the reality of the phenomenon and remain in need of further clarification of their own. Such circularity is widely known as the homunculus argument (e.g. Logan & Bundesen, 2004).

Here we argue that the application of this homunculus-logic is more widespread in cognitive and experimental psychology than is commonly thought and is particularly evident in the use of those abstractions. Popular examples of such abstractions are: "mental representations", "cognitive routines", "executive control", "working memory system(s)", "attentional control settings", "top-down input", "cognitive regulatory mechanisms", "task-switching module" or "neural mechanisms", among many others, are identified as the sources of observed effects (and we have to admit: our own prior work is no exception). In many articles the use of such abstractions even implies them to be active agents in the sense that they "do" things – they "drive" effects, they "prioritize" certain information, they "regulate" processes, they "cause" behaviour. In doing so, however, we assign agency to things that in reality do not have it (Holth, 2001; Ryle, 1949). Such category mistakes are tacitly accepted in much of cognitive psychology and help us bridge the gap that emerges because we do not inquire into the other pole of the phenomenon – our own activity that we inevitably contribute when we try to get hold of and make sense of a phenomenon. While we have expelled from much of psychology the idea of an experimenter who can actively describe and scrutinize her