

Journal of Neurology Forecast

Observation, Science and the Replication Crisis

Abdollahi M* and Gharibzadeh S

Cognitive Rehabilitation Clinic, Institute for Cognitive & Brain Sciences (ICBS), Shahid Beheshti University, Tehran, Iran

Dear Sir,

The debate on observational commensurability and its interrelation with theoretical commensurability is of great significance. Kuhn and Churchland argue that theories one accepts alter his perceptual experience; Fodor objecting to this argument claimed that empirical evidence shows that many observations are unaffected by the theory [1].

Fodor makes his point by demonstrating that illusions can occur even when the observer is aware of seeing an illusion, hence the conclusion that preexisting knowledge and higher cognitive processes do not affect perception and have no impact on perceptual capacities [1].

Despite this argument, considerable evidence from cognitive psychology indicates the theory-ladenness of observation. For instance, experiments with Old-Woman/Young-Woman ambiguous figures, Rat/Man ambiguous figures, or fragmented figures indicate that one's knowledge can determine the perception from a vague picture. Furthermore, as the subject sees the picture of a young lady at the initial stages of the experiment, the likelihood of seeing the young lady in the ambiguous picture also increases, and *vice versa* [2].

Besides perception and observation, theory-driven higher cognitive processes are of great importance in executing the scientific method in the production and analysis of data [3]; therefore, individual variability undermines the integrity and neutrality of the scientific method and science in general. This phenomenon could be manifested as the problem of "replication crisis" in which a large part of the scientific findings cannot be replicated.

A proposed solution to address this problem is a scientific procedure in which the experimenter and the people in charge of organizing and analyzing data are blind to the experiment and the hypothesis [2]. This approach is called a triple-blind study, as the assignment is concealed not only from participants and experimenters but also from the researchers analyzing the data.

OPEN ACCESS

***Correspondence:**

Mahan Abdollahi, Cognitive Rehabilitation Clinic, Institute for Cognitive & Brain Sciences (ICBS), Shahid Beheshti University, Tehran, Iran.

E-mail: mahanbon@gmail.com

Received Date: 25 Dec 2020

Accepted Date: 25 Jan 2021

Published Date: 29 Jan 2021

Citation: Abdollahi M, Gharibzadeh S. Observation, Science and the Replication Crisis. *J Neurol Forecast*. 2021; 4(1): 1011.

Copyright © 2021 Abdollahi M. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

References

1. Kukla A. The Routledge companion to philosophy of science. 2005.
2. Brewer WF. Perception is theory laden the naturalized evidence and philosophical implications. *Journal for General Philosophy of Science*. 2015; 46: 121-138.
3. Brewer WF, Loschky L. Top-down and bottom-up influences on observation: Evidence from cognitive psychology and the history of science. 2005.