

From mice to men: What can we learn about personality from animal research?

Research question. Lately, personality psychology have to face with an enormous number of research challenges, such as genetic and environmental influences on personality, biological basis of personality and personality change to name a few. Many question rose that are hard to address using only human studies or experiments: in some cases humans cannot be used for experiments, because of ethical issues for example... One solution could be to compare humans to animals. So the main question is: Can we learn something about human personality from animal research? How can animal research help us understand human personality?

Literature review. First of all, we have to define personality, which has to be very broad to satisfy most of the researchers. The author suggests the following definition: *“those characteristics of individuals that describe and account for consistent patterns of feeling, thinking and behaving”*(Gosling, 2001. p. 46). After determining what personality is, the author wrote down the process of the literature search, and the classifying (how to decide whether a paper is relevant to the topic or not) procedures. In the end this review included 187 articles.

Methodology. There are two kinds of measurement in use: behavioural coding, and traits rating. In the behavioural coding method individuals' responses to different tests and stimulus are observed, and rated. Usually open field test is used: researchers observe an animal (mainly rats) in a box, called the “open field”, under different conditions (thirsty, frightening etc...), and code their behaviour. The second one is traits rating. In this technique observers are asked to rate each animal on a number of personality traits. Mostly there are more observers, and they rate the animal more than only once, to ensure the reliability of the measurement.

The author highlights the two kind of comparison used in studies: within-species and between-species. Both of them are usually used, but according to the article's point of view between-species comparison is more important, if researchers want to compare humans and animals.

Reliability and validity. Test-retest reliability and interobserver agreement were summarised by species. Mean was counted from the correlation coefficients.

Some questions emerge about the above mentioned methodologies' reliability. The author summarises these questions, which could have an impact on the results. For example he asked whether some traits are easier to judge than others, or whether communication between observers influences the reliability results.

In the end the author draw the conclusion that the methodologies used are reliable.

A challenge emerged about the validity of animal personality research: it was hard to establish the ultimate measure of personality. The solution was construct validation: correlation between independent measures which gauge conceptually the same construct. Therefore some studies correlate behavioural coding with traits rating. The results show a huge variance by constructs and species. The author outlined some future challenges in the topic, and concluded that there is limited evidence in support of the validity of animal personality ratings, more research will be necessary.

Between-species comparison. Two types of between species comparison had been introduced: the bottom up and top down techniques. The previous one means that hypothesis are made from previous research in animals, which tested in human population, while top down is the inverse of this.

The author argued that in spite of the critiques, animal personality research has more advantages than disadvantages. It is possible to study the biological background of personality (brain lesion studies), genetic and environmental bases (cloning, maternal rearing), personality change (longitudinal research from birth to death, experimentally manipulated possible mediating factors, such as biological or social events), personality perception processes, links between personality and health (disease susceptibility, invasive research strategies).

The author outlines two general principles for comparative approach; the evolutionary and the ecological view. The generation of different hypothesis in the two principles were presented. Evolutionary approach helps us account for the origin of different traits; whether the trait was a solution for an adaptive problem, or if it originates from an ancestor of the given species. According to the ecological view if I make a statement about an animal (“this cat is lazy”), it tells us something about the cat, about the observer, and about the interaction, they are in.

Critiques and possible solutions of between-species comparison.

First is the jungle fallacy: studies sometimes use the same label for different constructs, and this is true inversely: sometimes different labels are used for the same construct. Moreover species react differently to different stimuli, because they have different behavioural repertoire (a mouse will not react in the same way like an octopus to a frightening stimuli) which makes quantitative comparison impossible. It would be essential to develop a common framework; the author suggests that Big Five could be a solution for this. The author mentioned some other problems which could influence the contribution of animal personality research:

- 1) Some studies confirm that humans tend to attribute human traits to animals. Lots of researchers treat this as anthropomorphic projections, and believe it impossible to draw conclusions to human personality from animals.
- 2) Humans possess complex cognitive processes, like complex representation of the self, animals don't. Only humans have culture-dependent traits.
- 3) Internal experiences are necessary to draw conclusions about personality. (Sure?)

Contribution. The conclusions were drawn that on one hand animal personality research can help us to understand human personality; on the other hand the critiques and borders of the field were also presented. The author demonstrated numerous previous results, and outlined critiques and new possible research opportunities.

Strengths and weaknesses. Large amount of literature was overviewed, the description of the exact literature search process was presented. The biggest strength of the introduction is that the structure of the article was described; also the exact aims were outlined. The reliability and validity indicators were summarised, critical analysis of the results and interpretations of the processed studies were performed. The author always highlighted the weaknesses of the different methodologies and interpretations; he systematically shows the summarised results. The only weakness of the study is that the previously mentioned definition of personality seems arbitrary, and the author does not reflect back regarding the extent to which empirical findings might alter it, and also possible problems or solutions are not considered that animal personality research can raise, with respect the definition of personality.

Reference.

Gosling, S. D. (2001). From mice to men: What can we learn about personality from animal research? *Psychological Bulletin*, 127(1), 45-86.