

Minimizing observer bias in behavioral research: blinded methods reporting requirements for *Behavioral Ecology and Sociobiology*

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Understanding the methodological concerns involved in observational data recording is paramount to interpreting the validity of results and inferences drawn in behavioral research, and resulting downstream effects. Literature analyses accentuate the susceptibility of behavioral studies to observer bias (Holman et al. 2015; van Wilgenburg and Elgar 2013; Tuytens et al. 2014). A recent review of a robust sample of behavior, evolution, and ecology papers appearing in *Nature*, *Science*, *Proceedings of the National Academy of Science* and the prominent behavioral biology venues *Animal Behaviour*, *Behavioral Ecology*, and this journal noted that authors most often do not report if their observational data recording used blinded methods (Kardish et al. 2015). In addition, experimental research has demonstrated that concealing contextual information by conducting blinded studies improves the accuracy of data collection by minimizing human bias (Tuytens et al. 2014). Together, these studies emphasize the importance of avoiding bias: results should not be influenced by the expectations of researchers who may intentionally or subconsciously score outcomes to favor a given hypothesis (Milinski 1997). The potential for observer bias in basic and applied behavioral biology should be minimized.

Blinded or double-blinded protocols can provide a corrective lens to decrease observer bias in animal behavior research and thus increase reliability. van Wilgenburg and Elgar (2013) “hope (their analysis) will stimulate renewed interest in

designing experiments in a way that bias is minimized and set a methodological benchmark for research in animal behaviour.” Holman et al. (2015) “urge researchers, editors, and peer reviewers to keep blind protocols in mind.” Kardish et al. (2015) advocate “a concerted effort of the field of evolution, ecology and behavior—including researchers, peer-reviewers, and journal editors ...to help promote and institute routine, blind observation as an essential standard that should be practiced by all sciences.”

The Editors-in-Chief and Associate Editors of *Behavioral Ecology and Sociobiology* agree in principle with this position, and support the use of blinded methods in data collection when feasible and appropriate. We will therefore require that authors state in the Methods section whether blinded methods were used in papers submitted for publication in *Behavioral Ecology and Sociobiology*. The use of blinded methods will not in and of itself be a deciding factor in the acceptance or rejection of submitted manuscripts, and implementing the new policy must reflect balance. Reviewers will be asked in their evaluation to consider the appropriateness of data recording methods, as is standard, and now a direct inquiry concerning the use of blinded methods will be included in manuscript rating. The goal of the policy is to foster the use of blind methods where possible, strengthen critical editorial review, and allow readers to better evaluate results and conclusions without creating an impractical and unnecessary burden on researchers.

We acknowledge that withholding information that informs observers of the context of a study while data are collected may not always be reasonable given the nature of behavioral studies or consistent with research and training objectives. We anticipate the change in journal policy will enhance awareness and encourage

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researchers to make appropriate best-practice effort to design studies that minimize the potential for observer bias. We hope other journals in the behavioral, ecological, and evolutionary sciences will broaden the dialogue concerning the appropriateness of study methods and adopt similar policies.

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