

## Active versus Passive Voice in Scientific Writing

The active voice promotes simple, straightforward writing. As such, most scientific journals encourage the use of the active voice over the passive voice.

- ★ *Active voice* – the subject acts.
- ★ *Passive voice* – the subject is acted upon.

### 1 Present tense

– tense often used in the Introduction/Discussion/Conclusion

- ★ Active: Vitamin A **increases** the risk of hair loss.
- ★ Passive: The risk of hair loss **is increased** by vitamin A.
- ★ Active: Volatile organic compounds (VOCs) emitted from industries and vehicle exhausts **can induce** a series of environmental problems, including photochemical smog, broken ozonosphere, and environmental pollution.
- ★ Passive: A series of environmental problems, including photochemical smog, broken ozonosphere, and environmental pollution, **can be induced** by volatile organic compounds (VOCs) emitted from industries and vehicle exhausts.

### 2 Present tense

– tense often used for Aims

- ★ Active: In this study, **we present** our design of an electric hot water tank.
- ★ Passive: In this study, a design of an electric hot water tank **is presented**.
- ★ Active: This study **develops** an efficient methodology to examine a space-time continuous dataset for urban irrigation water use.
- ★ Passive: An efficient methodology to examine a space-time continuous dataset for urban irrigation water use **is developed** in this study.

### 3 Present perfect

– tense often used in the Introduction/Discussion/Conclusion

- ★ Active: Previous studies **have used** comparative analyses of ORF2 sequences to elucidate phylogenetic relationships among different FCV isolates.
- ★ Passive: Comparative analyses of ORF2 sequences **have been used** in previous studies to elucidate phylogenetic relationships among different FCV isolates.
- ★ Active: Only a small number of empirical studies **have focused** on the patterns and mechanisms behind disease clusters at small spatial scales, especially in wild host-pathogen systems.
- ★ Passive: The patterns and mechanisms behind disease clusters at small spatial scales, especially in wild host-pathogen systems, **have been focused** on by only a small number of empirical studies.

### 4 Past tense

– tense often used in the Materials and Methods/Results

- ★ Active: **We determined** the presence of larvae by dip netting.
- ★ Passive: The presence of larvae **was determined** by dip netting.
- ★ Active: **We evaluated** the number of haplotypes (*h*), haplotypes (*Hd*), and nucleotides ( $\pi$ ) using the DnaSP 5.10 program.
- ★ Passive: The number of haplotypes (*h*), haplotypes (*Hd*), and nucleotides ( $\pi$ ) **was evaluated** using the DnaSP 5.10 program.
- ★ Active: **We found** a strong correlation between above-ground and below-ground biomass accumulation in *Platanus occidentalis*.
- ★ Passive: A strong correlation **was found** between above-ground and below-ground biomass accumulation in *Platanus occidentalis*.

### 5 When to use the passive voice

You should aim to make the language of your article as reader-friendly as possible. Therefore, it is acceptable to use the passive voice when it is required.

1. To emphasize the product (receiver) rather than the agent (performer)

*The risk of hair loss [product] is increased by vitamin A [agent].*

2. To keep the subject and focus consistent throughout a passage

*Female pattern hair loss [focus] is common, but estimates of its prevalence have varied widely. The risk of female pattern hair loss [focus] is increased by vitamin A.*

3. If you do not wish to name the subject

*The procedures were somehow misinterpreted.*

4. To describe a condition in which the actor is unknown or unimportant

*Every year, thousands of people are diagnosed with cancer.*

#### Sources and further reading

Sainani K, Elliott C, Harwell D. Active vs. passive voice in scientific writing. [Webinar slides]. American Chemical Society. 2015 Apr 8. Available from: <https://www.acs.org/content/dam/acsorg/events/professional-development/Slides/2015-04-09-active-passive.pdf>  
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