

# Review of: "A Case for Nature in Long-Haul Space Exploration"

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**Potential competing interests:** No potential competing interests to declare.

The paper in question puts forth a persuasive argument advocating for the inclusion of nature exposure during extended space journeys to alleviate the psychological challenges of isolation. The paper in its current format reads more as an opinion piece, supported by references that emphasize the psychological benefits of nature exposure without specific application to space missions. The absence of references to ongoing space missions, such as the ISS, and simulated Mars missions on Earth is duly noted. The need for a comprehensive review article that synthesizes existing literature and identifies research gaps is noticeable.

With that being said below are more detailed comments about the paper:

## **Strengths:**

**Articulate Thesis and Argument:** The paper effectively communicates its central thesis, asserting the psychological advantages of nature exposure during prolonged space flights. Given the relevant references supporting the broader psychological benefits of nature exposure it is difficult to dispute the importance of this topic.

**Relevant Use of References:** Despite the references not being space-specific, the paper successfully draws on existing literature to fortify its argument. The cited references contribute to the overall persuasiveness of the paper.

## **Weaknesses:**

**Failure to Engage with Contemporary Space Missions:** The paper is not referencing current space missions like the ISS and simulated Mars missions on Earth. This omission weakens the paper's argument by overlooking relevant data and neglecting to contextualize the proposed nature exposure within ongoing space endeavors.

**Overlooking NASA's Cupola and Earth Views:** The paper is faulted for neglecting to reference NASA's construction of the ISS's cupola, a deliberate feature providing astronauts with views of Earth. Acknowledging this oversight is essential, as it strengthens the argument by incorporating evidence that NASA places importance on nature exposure during space missions.

## **Recommendations:**

**Incorporate Data from Current Space Missions:** To enhance the paper's credibility, the author should integrate data

from ongoing space missions, particularly the ISS, to provide a more nuanced perspective on the psychological impact of isolation during extended spaceflights. This step would align the paper with empirical evidence and strengthen its overall argument.

**Address the Cupola Oversight:** The paper should recognize NASA's investment in the ISS's cupola as a key indicator of the agency's recognition of the importance of nature exposure. By incorporating this information, the argument would gain further support and directly respond to the reviewer's concerns.

**Transform Opinion Piece into Comprehensive Review:** One suggestion would be to consider transitioning from an opinion piece to a comprehensive review article. To fulfill this recommendation, the authors should conduct an exhaustive literature review, identifying existing research on the psychological effects of isolation in space and pinpointing gaps for future studies.

In conclusion, while the paper effectively advocates for nature exposure during extended space flights, addressing the identified weaknesses and incorporating pertinent data from current space missions would significantly enhance its contribution to the existing literature.