

Review Form 3

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_124395
Title of the Manuscript:	Transcranial electrical stimulation as a neuromodulation method
Type of the Article	Review Article

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	The manuscript presents a valuable exploration of neurostimulation technologies, particularly focusing on the development of a new device and its potential applications in treating neurological disorders. However, it lacks depth in discussing the specific methodologies and their implications for clinical practice. Additionally, the manuscript would benefit from a more structured approach and clearer connections between research goals and existing literature.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title "Transcranial Electrical Stimulation as a Neuromodulation Method" is generally suitable, but it could be made more engaging and descriptive to better reflect the content and focus of the article. Here are a few alternative suggestions: "Exploring Transcranial Electrical Stimulation: A Novel Approach to Neuromodulation" "Transcranial Electrical Stimulation: Innovations and Applications in Neuromodulation"	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The introductory sentence should unequivocally articulate the principal aim of the article. For instance, it may indicate that the article seeks to evaluate the contemporary status of Transcranial Electrical Stimulation (TES) as a neuromodulatory intervention and its utilization across diverse neurological disorders. Although the abstract asserts that TES influences cerebral activity, it would be advantageous to succinctly elucidate the fundamental mechanisms of action. This could encompass an examination of how various modalities of TES (e.g., transcranial direct current stimulation (tDCS), transcranial alternating current stimulation (tACS)) modulate neuronal excitability and synaptic connectivity. The abstract enumerates a range of conditions addressed through TES; however, it could be enhanced by incorporating more precise illustrations or empirical data regarding its efficacy in these domains. Such elaboration would afford readers a more lucid comprehension of its clinical implications. The reference to safety, efficacy, and individual variability is significant, yet it warrants further elaboration to delineate what these factors entail. For instance, one could briefly reference prevalent side effects or the heterogeneity in therapeutic responses observed across distinct patient cohorts. The conclusion of the abstract presently culminates in a remark concerning electroacupuncture as a form of neurostimulation. It would be advantageous to conclude with a prospective statement regarding future research trajectories or potential innovations in TES methodologies.	
Are subsections and structure of the manuscript appropriate?	Clear Sectioning: The manuscript is divided into distinct sections (Abstract, Introduction, Problem Statement, Material and Method, Results and Discussion), which helps in organizing the content logically. This structure is beneficial for guiding the reader through the research. Subsection Titles: While the main sections are clearly defined, the subsections could benefit from more descriptive titles that reflect their specific content. For example, "Material and Method" could be expanded to "Materials and Methods: Signal Parameters and Stimulation Techniques" to provide more context.	

Review Form 3

	<p>Introduction: The introduction adequately sets the stage for the topic of neurostimulation but could be enhanced by clearly stating the research objectives or hypotheses at the end. This would provide a clearer roadmap for readers.</p> <p>Problem Statement: This section effectively outlines the significance of neurostimulation therapy but could be more concise. Consider summarizing key points to maintain focus and clarity.</p> <p>Materials and Methods: This section is crucial for replicability but lacks detail in describing specific methodologies used in the study. Adding more information about experimental design, participant selection, and data analysis would improve this section.</p> <p>Results and Discussion: This section should ideally separate results from interpretations or implications. Presenting results first (with figures/tables) followed by a discussion of their significance would enhance clarity.</p> <p>Conclusion: The manuscript currently lacks a dedicated conclusion section. Adding a conclusion would help summarize key findings and suggest future research directions, providing closure to the discussion.</p> <p>Add Subheadings: Within each main section, consider adding subheadings to break down complex information into more digestible parts.</p> <p>Visual Aids: Ensure that figures and tables are well-integrated into the text with appropriate references in the discussion to enhance understanding.</p> <p>Consistency in Terminology: Maintain consistent use of terminology throughout the manuscript to avoid confusion (e.g., "affective signaling" vs. "influencing signal").</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript demonstrates scientific robustness and technical soundness in several key areas. First, it provides a comprehensive overview of transcranial electrical stimulation (TES) as a neuromodulation technique, supported by a thorough review of existing literature and empirical studies that highlight its efficacy in treating various neurological disorders, such as depression and chronic pain. This grounding in current research underscores the manuscript's relevance and adherence to scientific standards.</p> <p>Second, the manuscript effectively discusses the importance of stimulation parameters—such as signal shape, amplitude, and frequency—on treatment outcomes, which is critical for advancing the field of neurostimulation. By examining different methodologies within TES and their respective neuromodulation mechanisms, the authors contribute valuable insights that can inform future research and clinical practice. Lastly, the manuscript addresses safety and efficacy considerations, emphasizing the need for careful evaluation of individual differences in response to TES. This attention to ethical considerations and patient variability further enhances the scientific integrity of the work. Overall, the manuscript is well-positioned to contribute meaningfully to the ongoing discourse in neuromodulation and neurotherapeutics.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>⋮</p>	<p>Sufficiency: The manuscript references several key studies that are foundational to the understanding of TES and its applications. However, it would benefit from a broader range of recent literature to provide a more comprehensive view of current research trends and advancements in the field. The references cited (e.g., Marshall et al., Eggert) are important for supporting claims about the efficacy of different stimulation methods, but additional contemporary studies could strengthen the arguments presented.</p> <p>Recency: While some historical references provide context, it is crucial to include more recent studies (from the last 5 years) that reflect the latest developments in TES technology and its clinical applications. This will ensure that the manuscript is grounded in current scientific discourse. The manuscript should also consider including systematic reviews or meta-analyses that summarize findings from multiple studies, as these can provide valuable insights into the effectiveness and safety of TES.</p> <p>Suggestions for Additional References To enhance the manuscript's references, consider including the following types of studies: Recent Clinical Trials: Look for clinical trials published in reputable journals that evaluate the effectiveness of TES in treating specific conditions such as depression, chronic pain, or cognitive enhancement. Systematic Reviews/Meta-Analyses: Include systematic reviews that summarize existing research on TES, particularly those focusing on its efficacy, safety, and optimal parameters for treatment. Latest Advances in Technology: References discussing recent technological advancements in neuromodulation devices or methodologies would provide context for the development of new neurostimulation devices mentioned in the manuscript. Ethical Considerations: Articles addressing ethical issues related to neurostimulation practices could add depth to discussions about safety and patient consent</p>	

Review Form 3

<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language quality of the manuscript is generally suitable for scholarly communication, but there are several areas where improvements can enhance clarity and readability.</p> <p>Some sentences are overly complex or lengthy, which can hinder comprehension. For example, consider breaking long sentences into shorter ones to improve clarity.</p> <p>Example: Original: "The countless countless applications related to neurostimulation, the availability of various technologies and fields, have formed a new area of interest in the scientific community in developing neurostimulation devices and methodologies and discovering new applications." Suggested: "The numerous applications related to neurostimulation and the availability of various technologies have created a new area of interest within the scientific community. This interest focuses on developing neurostimulation devices and methodologies while discovering new applications." Some terms may not be the most precise or appropriate for a scholarly audience. For instance, "countless countless" should be corrected to simply "numerous" or "countless." Ensure that terms are used consistently throughout the manuscript. For example, "affective signaling" and "influencing signal" should be clearly defined at the beginning to avoid confusion. Review the manuscript for grammatical errors and punctuation issues. For instance, ensure proper use of commas in complex sentences to improve flow. While technical terms are appropriate for a scholarly audience, they should be clearly defined when first introduced. For example, when introducing terms like "transcranial direct current stimulation (tDCS)," ensure that their significance is briefly explained. The abstract could be more concise and focused. Consider summarizing key points more clearly and removing redundant phrases to enhance its effectiveness.</p>	
<p>Optional/General comments</p>	<p>Overall, the manuscript presents valuable insights into transcranial electrical stimulation as a neuromodulation method with potential applications in treating neurological disorders.</p> <p>Addressing the language quality will significantly enhance its impact and accessibility to a broader audience.</p> <p>Consider a thorough proofreading session or utilizing professional editing services to polish the manuscript further before resubmission.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

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