

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Psychiatry*

**Manuscript NO:** 86163

**Title:** Correlation and pathways of behavioral activation system mediating physical activity level and depressive symptoms among college students with depressive symptoms

**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 03372482

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Academic Research, Assistant Professor, Associate Professor

**Reviewer's Country/Territory:** Egypt

**Author's Country/Territory:** China

**Manuscript submission date:** 2023-06-05

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2023-06-20 06:49

**Reviewer performed review:** 2023-06-20 06:54

**Review time:** 1 Hour

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Novelty of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty

<b>Creativity or innovation of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

Objectives: To clarify the pathways and effects of the behavioral activation system between physical activity and depressive symptoms in college students with depressive symptoms. Methods: A cross-sectional research design was adopted and a total of 3047 college students were screened, with the result that 442 college students with depressive symptoms were included. One-way ANOVA, linear regression analysis, and structural equation modeling analysis were used to explore the correlations and pathways of interaction between variables. Results: Depressive symptoms were significantly negatively correlated with physical activity ( $r = -0.175$ ,  $P < 0.001$ ), behavioral activation system ( $r = -0.197$ ,  $P < 0.001$ ), and drive ( $r = -0.113$ ,  $P = 0.017$ ), and negatively correlated with fun seeking ( $r = -0.055$ ,  $P = 0.251$ ) with a non-significant correlation coefficient. Physical activity was significantly positively correlated with reward responsiveness ( $r = 0.141$ ,  $P = 0.003$ ) and drive ( $r = 0.124$ ,  $P = 0.009$ ), and positively correlated with fun

seeking ( $r=0.090$ ,  $P=0.058$ ) with a non-significant correlation coefficient. The mediating effect of reward responsiveness mediated between physical activity and depressive symptoms was significant ( $B= -0.025$ , 95% CI:  $-0.051$  to  $-0.008$ ,  $p=0.001$ ). The direct effect of physical activity on depressive symptoms was significant ( $B= -0.150$ , 95%CI:  $-0.233$  to  $-0.073$ ,  $P<0.001$ ) and the total effect of physical activity on depressive symptoms was significant ( $B= -0.175$ , 95%CI:  $-0.260$  to  $-0.099$ ,  $P<0.001$ ). Conclusions: As physical activity levels increased, depression scores of depressed college students tended to decrease. The increase in reward responsiveness may be the pathway through which physical activity improved depressive symptoms. Depressed college students may alleviate depressive symptoms by enhancing physical activity and improving behavioral activation systems, especially the reward responsiveness. In General: it's a good paper and the subject of the manuscript is applicable and useful. Title: the title properly explains the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, the language used in the abstract is easy to read and understand, and there are no suggestions for improvement. Introduction: authors do provide adequate background on the topic and reason for this article and describe what the authors hoped to achieve. MATERIALS AND METHODS: - The variables selected for the study are described clearly and are appropriate, given the nature of the question asked. - The research design is described in detail. - The research design is appropriate and does not contain particular weaknesses. - The measurement instrument, including its psychometric qualities, is described clearly. - The population of interest and the sampling procedure are defined clearly. - The data collection procedure is clearly described. - The setting in which the study took place is described. - The data analysis procedures are stated in precise terms. - The data analysis procedures are appropriate. Results: the results are presented clearly, the authors provide accurate research results, and there is sufficient evidence for each result, Specific data accompany the result statement, and Tables and

figures are used efficiently. Conclusion: in general: Good and the research provides sample data for the authors to make their conclusion. Grammar: There are a lot of grammatical errors. This must be taken care of and addressed. . (Check The Paper Comments).

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**Peer-review model:** Single blind

**Reviewer's code:** 04060144

**Position:** Associate Editor

**Academic degree:** MD

**Professional title:** Full Professor

**Reviewer's Country/Territory:** Italy

**Author's Country/Territory:** China

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**Reviewer chosen by:** Geng-Long Liu

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**Reviewer performed review:** 2023-06-27 14:14

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty

<b>Creativity or innovation of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

This study examines the relationship between physical activity and depressive symptoms among college students, focusing on the potential mediating role of reward responsiveness. The findings highlight the potential benefits of promoting physical activity and improving behavioral activation systems, particularly reward responsiveness, for alleviating depressive symptoms in college students. Although the study is needed in the current literature, there are different major issues that lead to not suggest the publication in the current form.

**Introduction:** The current study investigates mental disorders among college students, specifically focusing on depressive symptoms. It is suggested to replace the terms "mental illness" and "mental health problems" with "mental disorders" to align with clinical research terminology. Furthermore, it is recommended to include a clear statement on the study hypothesis(es) to provide a more focused direction for the research. The sentence, "based on which the

pathways of the behavioral activation system mediating the effect of physical activity level on depressive symptoms in college students with depressive symptoms were clarified," should be rephrased to avoid misinterpretation and reflect the clinical nature of the study. **Methods:** The study should clearly outline the inclusion and exclusion criteria for participants. Additionally, each statistical analysis should be directly linked to its purpose within the research design. Furthermore, further elaboration is needed regarding the division of the whole sample into subsamples, distinguishing between students with and without depression, or with different degrees of depressive symptoms.

**Results:** The statement, "Post hoc multiple comparisons indicated significant differences in physical activity and reward responsiveness ( $P < 0.05$ ) for severe compared to moderate, and in physical activity, reward responsiveness and drive ( $P < 0.01$ ) for severe compared to mild," requires clarification. It is unclear whether "severe compared to moderate" refers to differences in depressive symptoms. The results should be presented more explicitly, and it would be useful to report the intermediate effect of drive, even if not statistically significant, in Table 3. **Discussion:** The sentence, "The present study showed that only the dimension of reward responsiveness mediated the relationship between physical activity and depressive symptoms," requires further explanation and discussion in subsequent parts of the discussion section. Additionally, the study's limitations should be addressed to provide a comprehensive understanding of the research's scope and potential constraints. **Conclusions:** The concluding paragraph should be expanded to provide a more in-depth analysis of the study findings.



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**Peer-review model:** Single blind

**Reviewer's code:** 05429012

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Doctor, Research Scientist

**Reviewer's Country/Territory:** Jordan

**Author's Country/Territory:** China

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**Reviewer chosen by:** Geng-Long Liu

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**Review time:** 2 Days and 6 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Novelty of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty



<b>Creativity or innovation of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

I would like to thank editors and authors for giving me the chance to review this manuscript. The abstract started with the aims. A brief introduction can be optionally added. In the methodology of abstract, the authors stated that the study design was cross-sectional. This is right, but the researchers ignored to calculate the prevalence of depression among the whole population,, please add it. The conclusion is not well supported. A cross-sectional study design can not lead to a casual relationship. It is better to rewrite the conclusion part. No objectives were mentioned following the introduction, please add them in details. Numbering of sections during constructing the article started with methodology section, but not with the introduction, please correct the numbering system you are following. In result section, language expressing the tables needs to be revised.

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**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 03067229

**Position:** Peer Reviewer

**Academic degree:** DSc

**Professional title:** Research Scientist

**Reviewer's Country/Territory:** Russia

**Author's Country/Territory:** China

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**Reviewer performed review:** 2023-06-30 04:06

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty

<b>Creativity or innovation of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
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<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

#### SPECIFIC COMMENTS TO AUTHORS

The article is well structured. Statistical analysis is adequate. However, more information could be obtained by studying the dynamics of changes in the studied indicators.