The Relationship Between Physical Activity and Creative Domains in Young Adults

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Introduction

We know what physical activity can do for the body, but what about the mind? Research has found that physical activity can impact convergent and divergent thinking (Bollimbala et al., 2021), but less is known about the different domains of creativity as proposed by Kauffman.

The purpose of this study is to examine how college students' physical activity is related to five different domains of creativity. The following research questions will be addressed in this study:

RQ_1: Can physical exercise influence creativity in certain creative domains?

RQ2: How does creativity differ between genders with respect to physical activity?

Hypotheses

H1: Participants who are in different physical activity groups will result in statistically significant differences across all five creativity domains in their mean scores.

H2: Males and females only in the Active group will have statistically significant differences in their mean scores for each creative domain

There was a statistical significant between physically active males and females in the Self/Everyday domain

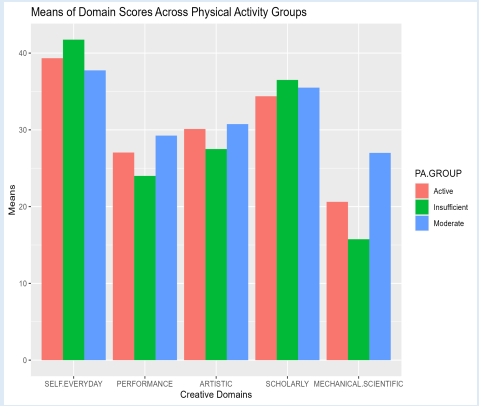
Results

H1 was not supported *(fig. 1)*:

The results of the MANOVA test which examined participants' mean scores across the 5 creative domains with respect to their physical activity group were not statistically significant

$F(2, 10) = 0.52237$, $p = 0.8705$

Fig. 1



H2 was supported *(fig. 2)*:

The results of the MANOVA test which examined participants' mean scores across the 5 creative domains with respect to their gender were statistically significant

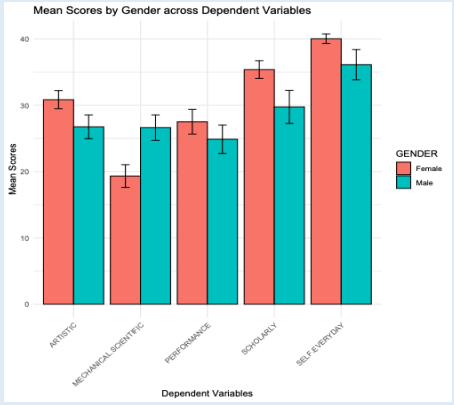
$F(1, 5) = 6.3361$, $p = 0.0002148$

A series of Independent *t*-tests were performed to see where the significant differences are present, which was only in the Self/Everyday domain between physically active males ($M = 36.13$, $SD = 6.446$) and females ($M = 40.03$, $SD = 4.450$).

$t(43) = 2.0712$, $p = 0.04437$, 95% CI [.103, 7.701].

Cohen's *d* was 0.8, indicating a large effect.

Fig. 2



Method

Participants (N = 53)

- Females: 44
- Males: 9

Measures

- Kaufman's Domains of Creativity Scale
- Godin's Leisure-Time Exercise Questionnaire

Procedure

1. This study was listed on the psychological science research page. Students signed up through email.
2. Informed consent form (see Appendix B).
3. Godin's Leisure-Time Exercise questionnaire
4. Kaufman's Domains of Creativity Scale
5. Demographics.
6. Debriefing form (see Appendix C)
7. Students received research credits upon completing their part of the study as participants.

Conclusion

Limitations

1. The study was conducted online, which made it more difficult for participants to ask any potential questions.
   - May explain the ceiling effect
2. Age group of participants for this study only includes college students
3. The data of this study was collected via convenience sampling
4. Godin's Leisure-Time Exercise Questionnaire (GLTEQ; see Appendix A) does not take into account different weight classes or even the different rates at which participants burn calories. Furthermore, the instructions were unclear to many participants, which could potentially explain the ceiling effect as well.

In the future, researchers should explain the instructions thoroughly to avoid any confusion.

Implications

In the future, researchers should explain the instructions thoroughly to avoid any confusion. Education systems have reason to emphasize physical activity in order for students to excel in different creative domains. These benefits may also extend to organizations and companies which want to maximize the creativity of their employees.