Three Ways to Be More Creative: Relax, Exercise and Watch TV

Effects of an acute exercise, television & relaxation protocol on creativity in primary school children

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BACKGROUND

- **Creativity** is defined as the process of generating original ideas in response to given open-ended problems (Fink & Benedek, 2014).
- It is mainly attributed to **internal factors** such as genes, brain, personality, cognitive skills, and intrinsic motivation; it is seldom ascribed to **external factors** such as education, technology, and extrinsic motivation (Selvi, 2007) or linked to physical activity and physical fitness.

PURPOSE OF THE STUDY

- The purpose of this study was to extend previous experimental work suggesting that exercise, television and relaxation based interventions may influence creativity processes in adults (Frith & Loprinzi, 2018), by investigating the independent influences of exercise, television or relaxation stimuli on verbal creative performances in the school environment.

METHODS

- 32 children aged 9 to 12 years (9.50 ± 0.98 years; 18 boys, 14 girls)
- Three to 15-min experimental conditions: running, television, or an imaginary journey (see Figure 1)
- Four creativity assessments during each visit (Alternative Use Task [AUT]; Realistic Presented Problem [RPP]; Realistic Problem Generation [RPG]; Remote Associates Task [RAT]) (Guilford, 1967; Runko & Okuda, 1988) (see Table 1)
- Creativity task performance was scored across four dependent parameters, which included fluency (i.e., total number of ideas), flexibility (i.e., total number of categories), originality (i.e., responses thought of by <5% of the sample), and elaboration (i.e., degree of supplementary detail included per idea)
- Repeated Measures ANOVAs

RESULTS

- **elaboration** (AUT, RPG) highest for the television condition
- **flexibility** (AUT, RPG) highest for the relaxation condition
- **fluency** (RPG) highest for the relaxation condition
- **originality** (RPG) highest for the relaxation condition
- **RAT** scores higher in the running condition

DISCUSSION

- Our results suggest that relaxation and exercise can improve creative performance with divergent and convergent thinking. This work contributes to understanding the function of an acute intervention on creativity and offers a new way to investigate the relationship between activity, exercise, relaxation and the improvement of academic achievement.

![Figure 1. Study flow](image1.png)

![Figure 2. AUT across the experimental conditions](image2.png)

![Figure 3. RPG across the experimental conditions](image3.png)

![Figure 4. RPP across the experimental conditions](image4.png)