Movement Science110_Bodary_2021W_SeniorExercise

M-Write prompt #2: Testing the efficacy of a strategy to improve metabolic efficiency in older adults

This writing prompt is based on the following two articles. The first is a lay article (by the NY Times) that we've had as part of our consolidation work last weekend. The second is a scientific article that the NY Times used as the basis for their lay article.

Lay article: (NY Times)

For successful aging, pick up the pace or mix it up

Scientific article: (Asian et. al. 2020; Journal of Aging and Physical Activity)

Bicycling exercise helps maintain a youthful metabolic cost of walking in older adults

Learning Outcomes:

- Read scientific literature intentionally to extract relevant information
- Communicate scientific information and interpretation to different audiences
- Communicate the main components of an exercise training study
- Apply knowledge to propose new research study (or experimental design)

Description of the task:

You are working as an intern for a non-profit that runs several large senior living communities. This organization prides itself on delivering up-to-date advice to its seniors about how to maintain their health and fitness.

Your supervisor has tasked you with analyzing recent studies about exercise and health outcomes for seniors. She is especially interested in developing guidelines for seniors about how to exercise in order to optimize health benefits. You decide to start with a topic you are familiar with - the science of exercise physiology - and you find a very recent study involving exercise benefits for older adults (Aslan et al. 2020). Your supervisor has asked that you analyze the article by summarizing what the findings mean as well as describing what additional work might need to be done before the organization can issue guidelines to its residents. Your audience is your supervisor who helps coordinate exercise programs for seniors and has a general science background. The format of your analysis should be a **professional memo**.

Items to keep in mind:

- Your goal with this memo is to briefly describe the main findings of the Aslan et al. (2020) scientific paper and then outline a scientific study **that would move the science forward** regarding this topic of strategies for enhancing metabolic efficiency in older adults.
- Your brief description of the Aslan paper should outline the study design, subjects involved, dependent and independent variables and the main findings of the study (in your own words).
- You should use concepts learned in class to support your outline of the proposed scientific study. We strongly recommend that your memo includes the following items: the experimental design you have chosen, the independent variable(s), dependent variable(s) and the subjects that you will plan to recruit for the study.
- Your audience is your internship supervisor at the non-profit organization and they have general scientific backgrounds, so be sure to write in a way that is understandable to your supervisor. Specifically, be sure you provide a strong rationale for your supervisor regarding what subjects would be recruited for the study and the dose of exercise that you are choosing based on the articles provided in this prompt. It should be clearly outlined how the study you are designing will move the science forward from the study by Aslan et al.
- External references are not required, but if they are used they should be cited using MLA format
- Since you are writing a memo that you want to impress your supervisor, you should take care to carefully edit and proofread your synopsis. For more information about the format for memos, see this Purdue OWL resource along with an example of what memo format should look like.
- Your memo should be between 450-600 words
- Remember that there is 20% deduction in score per day if the assignment is turned in late

Rubric

Criteria	Ratings			Pts
Summary of study design and main findings of Asian et al.	**5 pts** **Full Marks**	**3 pts** **Partially completed**	**0 pts** **No Marks**	5 pts
Description of experiment planned Including overall study design, dependent and independent variables, exercise dose and type of subjects recruited	**10 pts** **Full Marks**	**5 pts** **Partial credit** Some expected elements are present; some missing	**0 pts** **No Marks**	10 pts
Clear rationale provided for the choice of study subjects and exercise dose for the planned experiment Includes comparison to the exercise dose and subjects studied in the Asian et al. paper.	**10 pts** **Full Marks**	**5 pts** **Partial credit** Some expected elements are missing	**0 pts** **No Marks**	10 pts
Understandable to audience (Audience with basic science background, but no research experience)	**3 pts** **Full Marks**		**0 pts** **No Marks**	3 pts
Memo format + appropriate length	**2 pts** **Full Marks**		**0 pts** **No Marks**	2 pts
				Total Points: 30