Correspondence on: "Effect of Electronic Gaming on Heart Rate"

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Dear Editor,

I read with great interest the paper submitted by Sobani et al, titled "Electronic Gaming versus Physical Activity: Effect on Heart" [1]. The authors described the relationship between catecholamine release-inducing stimuli (electronic gaming and physical activity) on a person's heart rate. Based on cardiovascular physiology, it is reasonable to conclude that a flight-or-flight response occurs as a natural body reaction in such settings, and it would therefore not be surprising to know that heart rates increase in both settings.

Unwanted sympathetic activity has been documented to produce deleterious effects on the body. Cardiovascular consequences include decrease in extremity vascular conductance, increased arterial blood pressure and impaired baroreflex buffering among others [2]. Chronic activation has also been implicated in age-associated obesity [3]. The difference between electronic gaming and physical activity is that in physical activity, the catecholamines released and effects resulting from its action (e.g. increased heart rate) actually do get used in a more appropriate manner as there is a need for heart rate to increase to meet the cardiac output demands in exercise. There is probably no such demand required in gaming.

It would be reasonable to postulate that the chronic effects of "unused" catecholaminergic effects in sedentary gamers would lead to the aforementioned consequences. Another example would be the surge of adrenaline a medical student faces before the final examinations secondary to anxiety [4]. The final examination raises the heart rate [5] but this is not appropriately utilized physically as well. A medical student would probably have better examination performance with this surge, but with time and with more exams taken, the body feels more weary and tired.

As an extension of the original study, it would be interesting if the authors also measure blood pressure, another parameter affected by the sympathetic nervous system. The effect of playing a sedentary but less intense game (e.g. electronic sudoku at an easy level without a time limit) might be worth studying to see if there are similar effects.

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