

Interactive Video Gaming: Do We Feel Like We Are Exercising?

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ABSTRACT

PURPOSE: The primary purpose of this study was to determine if the rating of perceived exertion (RPE) and hedonics (liking or enjoyment) changed during 30 contiguous minutes of playing select, interactive video games on the Nintendo Wii system. A secondary purpose was to determine if RPE and liking differed among games.

METHODS: Twenty-four apparently healthy adults (n = 12 females; n = 12 males) aged 23.7 ± 7.3 y, with a height, mass, and percent body fat of 167.0 ± 9.8 cm, 66.7 ± 13.0 kg, and 18.2 ± 8.4 %, respectively, were voluntarily recruited. RPE and hedonics were assessed, using visual scales, at minutes 15 and 30 during 30 minutes of game play of 3 Wii games (Tanks!, Basic Run, and Basic Step) completed in a random order. A repeated measures factorial ANOVA was used to determine differences in RPE and hedonics within game play and among gaming conditions (α = 0.05).

RESULTS: RPE differed between minute 15 and 30 [M (SD) = [8.7 (0.8)] and [9.5 (0.7)], respectively. There were significant differences in RPE between the active games Basic Run [M (SD) = 10.4 (0.8)] and Basic Step [9.1(0.9)] compared to the sedentary game Tanks! [7.9 (1.1)]. Liking did not differ between minute 15 and 30 [M (SD) = [5.1 (2.4)] and [5.3 (2.8)], respectively. Additionally, hedonic scores did not differ among games [Basic Run, M(SD) = 5.3 cm (2.5); Basic Step 4.7 cm (2.6); Tanks! 5.5 cm (2.5)].

CONCLUSION: These data suggest that individuals do perceive difference in the amount of work they are performing during extended play of the same game or among sedentary and physically interactive games. Additionally, liking was similar during extended game play and among games suggesting that the physical interaction with the game may be superseded by interest in the game. Promoting the use of physically interactive gaming may be useful in helping individuals meet their daily recommendations for physical activity owing to their enjoyment which minimizes the perception of being physically demanding.

METHODS

Subjects:

- Apparently healthy adults from the UNLV community (Table 1)

Instrumentation:

- Nintendo Wii Gaming Console (Nintendo of America, Inc., Redmond, WA, USA)
- Wii Balance Board (Nintendo of America, Inc., Redmond, WA, USA)
- MOXUS Metabolic Cart; Applied Electrochemistry, Pittsburg, PA, USA)

Procedures:

- 3 Gaming conditions, 30 min each, randomized:
 - Tanks! (T)
 - Basic Step (BS)
 - Basic Run (BR)

Data Reduction

- RPE and hedonics were recorded at minutes 15 and 30.

Statistical Analysis

- Dependent Variable: RPE, hedonics (cm)
- Independent Variables: Wii Video Games (i.e. BR, BS, and T)
- t-Tests were used to determine changes in RPE and hedonics

RESULTS

Table 1: Subject Characteristics (avg. ± SD)

n	Age (y)	Height (cm)	Mass (kg)	% fat
24	23.7 ± 7.3	167.0 ± 9.8	66.7 ± 13.0	18.2 ± 8.4

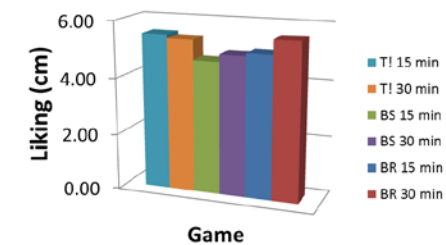
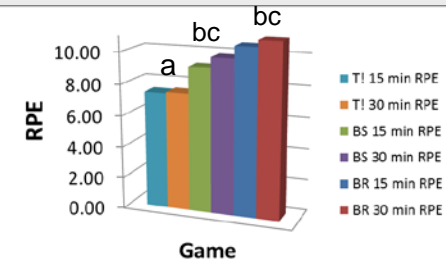


Figure 1: 15 min & 30 min RPE & Liking.

CONCLUSION

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