Using an Alternate Reality Game to Increase Physical Activity and Decrease Obesity Risk of College Students

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Abstract

Background:

This quasi-experimental study investigated a game intervention—specifically, an alternate reality game (ARG) as a means to influence college students' physical activity (PA). An ARG is an interactive narrative that takes place in the real world and uses multiple media to reveal a story.

Method:

Three sections of a college health course (n = 115 freshman students) were assigned either to a game group that played the ARG or to a comparison group that learned how to use exercise equipment in weekly laboratory sessions. Pre- and post-intervention measures included weight, waist circumference, body mass index (BMI), percentage body fat (PBF), and self-reported moderate physical activity (MPA) and vigorous physical activity (VPA), and PA (steps/week).

Results:

A significant group *x* time interaction (p = .001) was detected for PA, with a significant increase in PA for the game (p < .001) versus a significant decrease (p = .001) for the comparison group. Significant within-group increases for weight (p = .001), BMI (p = .001), and PBF (p = .001) were detected. A significant group *x* time interaction (p = .001) was detected when analyzing self-reported VPA, with both groups reporting decreases in VPA over time; however, the decrease was only significant for the comparison group (p < .001). No significant group differences were found for MPA.

Conclusions:

It is important that any intervention meet the needs and interests of its target population. Here, the ARG was designed in light of the learning preferences of today's college students—collaborative and social, experiential and media-rich. Our results provide preliminary evidence that a game intervention can positively influence PA within the college student population.

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Abbreviations: (ARG) alternate reality game, (BMI) body mass index, (MET) metabolic equivalent, (MPA) moderate physical activity, (PA) physical activity, (PBF) percentage body fat, (SCT) social cognitive theory, (SEE) standard error of estimate, (VPA) vigorous physical activity

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