

Active Video Game Use (Exergaming) Over 10 Years (Including During COVID-19) Among Young

Adults in Canada

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Context

- Physical activity (PA) declines from adolescence into young adulthood
- Up to 60% of young adults report lifetime exergaming (i.e., playing active video games)
- Exergaming has been advocated as an innovative approach to increase PA and decrease sedentary behaviour
- Exergaming research to date comprises laboratory studies of acute or situational bouts of exergaming, and most studies evaluate console exergames even though mobile exergaming is gaining popularity
- Few longitudinal studies investigate exergaming in population-based samples or during the COVID-19 pandemic
- The evidence-base on sustainability of exergaming in young adults is under-developed

Objectives

- Describe trends in the prevalence of exergaming over 10 years (including during COVID-19) among young adults
- Assess whether the prevalence of exergaming over 10 years differs by sex in young adults
- Among exergamers, describe minutes per week exergaming at each time point including during the COVID-19 pandemic

Methods

- n=586 young adults participating in the longitudinal NDI Study
- Self-report questionnaires completed in 2010-12 (age 20), 2017-20 (age 31), and 2020-21 during the COVID pandemic (age 34)
- Data available on:
 - socio-demographic characteristics
 - past-year participation in exergaming
 - modeled after the I-PAQ, frequency, intensity and duration of exergaming in the past 7-days
- Analysis
 - complete case analysis (i.e., participants with data at all 3 time points)
 - descriptive statistics of prevalence of exergaming
 - chi-square and independent sample t-test to examine sex differences

Results

Table 1. Sample Characteristics (n=586)

	% or M (SD)
Age, y in 2020-21	33.7 (0.7)
Male	41
Mother attended university	40
Participant attended university	61
Canada-born	95

Discussion

- 35% of participants reported exergaming in at least one cycle, 18% exergamed in 2 cycles, and 5% exergamed in all 3 cycles
- Exergaming may be more popular during adolescence, or the decline over time may simply mirror the general decline in PA with age
- Additional research are required to test the hypothesis that the prevalence of exergaming declined at a faster rate than expected from age 31 to 34 (during COVID)
- Most exergamers reported light to moderate effort while exergaming, with no differences across sex
- Although prevalence declined, minutes per week exergaming among exergamers increased
- In contrast to adolescence when relatively more girls than boys exergame, there were few differences in prevalence by sex in young adults

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Table 2. Frequency, Duration and Intensity of Past-Year Exergaming Among Young Adults Over 10 Years

	2010-12 (age 20) Pre-COVID-19			2017-20 (age 31) Pre-COVID-19			2020-21 (age 34) During COVID=19		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Among all 586 participants									
Past-year exergaming, %	44	40	43	30	37	25	14	16	13
Among past-year exergamers only*									
Past-week minutes exergaming, M (SD)	95 (133)	119 (154)	82 (118)	187 (261)	206 (262)	162 (265)	219 (230)	252 (230)	190 (229)
Exergaming intensity, %									
Light	35	51	26	66	69	62	58	51	63
Moderate	52	43	58	29	28	31	34	44	24
Vigorous	13	5	17	5	2	7	9	5	12

*n=77, 47, 99 at age 20, 31 and 34, respectively

Bold indicates a statistically significant difference by sex