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An online pilot study exploring the relationship between diet quality and psychobehavioural characteristics in gamers and non-gamers

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Engaging in sedentary activities and consuming energy-dense, nutrient-poor foods increases the risk of developing non-communicable diseases (1). Young adults are one of the largest users of video games in Australia (2). To engage young adults in lifelong healthy behaviours, we need to understand their attitudes and behaviours towards health and healthy eating by examining psychobehavioural characteristics. This cross-sectional study explored the similarities and differences in diet quality of online gamers and non-gamers using a validated psycho-behavioural survey (3).

Online participants (n = 53, 18-30 years) from Australia completed a validated self-administered survey (3) including demographics, self-reported weight and height, searching online, physical activity levels (4), strategic dieting behaviours (5,6), self-identification as gamers or non-gamers (7) and up to three online 24-hour dietary recalls over non-consecutive days using Intake24Australia https://intake24.com/. Diet quality was assessed using the adapted Healthy Eating Index for Australian Adults (HEIFA)-2013 (8). Informed consent was obtained.

Gamers (n = 18, 44%) were more likely to identify as male (14.3% for Non-gamers, $p = 0.05$) but similar

BMI (Median 23.4kg/m2 (Percentiles = 20.6,29.5) vs 20.76kg/m2 (19.1,24.2), $p = 0.10$) to NonGamers. Overall differences in Gamers and Non-gamers were not due to gender differences ($P>0.05$). Gamers were less likely to report significant weight change in the previous 12 months (77.8% vs 42.9% for Non-Gamers, $p<0.05$) and were more likely to consciously control their weight by dieting than non-gamers ($p<0.01$). There was no difference in sitting time (Gamers 540min/d (420,601) vs Non-gamers 420min/d (300,600), $p = 0.13$). Despite being satisfied with the healthiness of their diet (score 9/15, $p = 0.99$), both groups were somewhat likely to improve the healthiness of their diet (10/15, $p = 0.66$). Non-gamers had higher intentions to search online for healthy eating and food-related information ($p<0.05$), healthy recipes, and meal plans ($p<0.01$). Diet quality was low across both groups (Gamers 50/100 vs Non-gamers 56/100, $p = 0.18$). Non-gamers reported significantly higher water (398ml (0,981) vs 134ml (0,326) $p = 0.031$) and beverage (1264ml (761,1558) vs 690ml (505,977) $p = 0.010$) consumption than gamers.

The findings suggest that online gamers and non-gamers share similar concerns and priorities regarding health. Diet quality was similar, with both groups likely to benefit from targeted interventions to improve dietary intake. Low water consumption is a concern, with campaigns highlighting the benefit of water for cognitive performance more likely to resonate with young adults, particularly gamers. Using a psycho-behavioural survey and co-design methods will provide insights to inform more tailored public health communication strategies for diverse groups such as young adults.

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