**Annex 1: Data extraction table**

| Authors (year) | Objectives | Physical health outcomes | Main relevant results | Strength of association/Group differences |
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| Chaput and al., 2011 | The objective was to examine the acute effects of sedentary video game play on various components of energy balance. | Energy expenditure and energy intake | Although energy expenditure was significantly higher during video game play than during rest, ad libitum energy intake after video game play exceeded that measured after rest. A daily energy surplus of 682 kJ over resting was observed in the video game play condition. | • Energy balance was significantly increased (59kcal) in the video game condition compared to the control condition (t-test for dependant sample, $p<0.05$).<br>• Small effect size (Cohen's d value: 0.32)<br>• Strength of association for energy balance: **not applicable** |
| Desai and al., 2010 | This study examines the prevalence and clinical correlates of gaming as well as reported problems associated with video games. | Smoking and BMI | Among boys, gaming was associated with never smoking and not associated with BMI. Among girls, gaming was associated with a slightly higher BMI. | • Gaming was associated with slightly higher BMI in girls ($p=0.03$), but not in boys.<br>• Girls playing video games had slightly higher average BMI measures (OR: 1.03; $p< 0.01$), whereas there was no association in boys (OR: 1.0001; $p=0.98$).<br>• Strength of association for BMI: **very weak for girls. No association in boys.** |
| DiFrancisco-Donoghue and al., 2019 | To characterise lifestyle habits of collegiate eSport players. | Musculoskeletal symptoms, physical activity. | The most frequently reported complaint was eye fatigue (56%), followed by neck and back pain (42%).<br>eSport athletes reported wrist pain (36%) and hand pain (32%). Forty per cent of participants do not participate in any form of physical | This study is exclusively descriptive.<br><br>(1).<br><br>Strength of association for musculoskeletal symptoms or physical activity: **not applicable** |

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| | | | exercise. Among the players surveyed, only 2% had sought medical attention. | |
| Exelmans and al., 2015 | The aim of the current study was to investigate the association of video game volume with sleep quality in adults. | Sleep quality fatigue, insomnia, sleep duration. | Video gaming volume was a significant predictor of sleep quality, fatigue and insomnia. | • Gaming volume was positively related with all sleeping variables, with coefficients (Pearson and Spearman) ranging between 0.104 and 0.189 ($p < 0.01$).<br>• Strength of association for sleep: **weak** |
| Hellström and al., 2015 | Investigate whether adolescent online gaming time was associated with musculoskeletal and psychosomatic symptoms. | Musculoskeletal symptoms & psychosomatic symptoms. | Weekday online gaming for more than five hours a day, in combination with escape motives, was associated with musculoskeletal symptoms and psychosomatic symptoms. The probability of ill health decreased when gaming was for fun or had social motives. | • Musculoskeletal symptoms are significantly correlated to several gaming parameters of time and frequency (0.096 to 0.170).<br>• Multiplayer online gaming was associated with musculoskeletal symptoms (OR 1.081, 95% CI 1.034–1.129, $p = 0.001$).<br>• Strength of associations for musculoskeletal symptoms: **weak** |
| Rudolph and al., 2020 | The present study examines the demographics and health behavior of video game and eSports players. | Duration and quality of sleep, duration of moderate to vigorous physical activity, duration of sedentary behavior, fruit and vegetable | 95% of the participant reported an excellent, very good or good health status. Two thirds of the sample engage in moderate to vigorous physical activity of more than 2.5 h a week. Across all player status groups, the median sleep quality is “quite good” and the | • Weak positive association between video game playing time and sedentary behavior (rho = 0.15; $p < 0.01$) and BMI (rho = 0.11; $p < 0.01$).<br>• Strength of association for BMI and sedentary time: **weak**<br>• Weak negative association between video game playing time and self-reported health status (rho = −0.14; $p < 0.01$). |

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| | | consumption, general health status, and BMI. | average sleep duration is 7.1 ± 1.3 h per night. Mean fruit and vegetable consumption is 2.7 ± 1.8 portions/day and the recommendation of five portions a day is fulfilled by 11% of the total sample. | • Strength of association for general health status: **weak**<br>No statistically significant or relevant (rho < 0.10) associations are found between video game playing time and sleep parameters, physical activity, and fruit and vegetable consumption. |
| Scharrer and al., 2014 | To evaluated correlations between time spent video gaming and body mass index (BMI). | BMI | Results showed no evidence of any correlation between BMI and relative time devoted to video game usage by type of, nor any support for a correspondence between overall levels of time spent with video games and BMI. Yet, the data did point to a nonlinear association in which those who devoted more than 50% of the total time they spend with video games on sedentary games had a higher BMI than those who spent less than 50% of their video gaming time with sedentary games. | • There was no evidence of a correlation between respondents' BMI and the proportion of their video gaming time they devoted to sedentary games ($r = .096$, $p = .24$).<br>• Strength of association for BMI: **no association** |
| Mario and al., 2014 | The association of video game playing with body composition, physical activity and eating behaviour was investigated. | BMI, physical activity, Sleep quality, energy intake. | Across the whole sample, total video-game playing (hours/week) was significantly correlated with BMI. A higher level of dietary restraint was observed in non-frequent video-game users. The two video-game groups did not | • Energy intake was similar between frequent and non-frequent players ($p = 0.92$).<br>• Total video-game playing (hours/week) was significantly correlated with BMI ($\rho = 0.30$, $p < 0.05$), waist circumference (WC) ($\rho = 0.42$, $p < 0.01$), Fat Mass (FM) ($\rho = 0.47$, $p <$ |

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| | | | differ for energy intake. Frequent video-game users engaged in less vigorous physical activity. | 0.01), heart rate (HR) ($\rho = 0.47$, $p < 0.01$) and vigorous physical activity ($\rho = -0.30$, $p < 0.05$).<br>• **Strength of association:** BMI, WC, FM, Vigorous physical activity: **moderate.**<br>• For frequent gamers, there was a tendency for greater sleep alteration compared to non-frequent videogame users ($p = 0.08$). **No association**<br>• Strength of association for sleep: **not applicable** |
| Smyth and al., 2007 | To examine the effects of being assigned to play different video game types on game usage, health, well-being, sleep, socializing, and academics. | General health status, sleep quality. | The Massively Multiplayer Online Role-Playing Game (MMORPG) group differed significantly from other groups after 1 month, reporting more hours spent playing, worse health and sleep quality. | • MMORPG group reported more hours played ($F(1,96) > 7.32$, p 0.01), significantly worse overall health ($F(1,96) > 4.14$, $p < 0.05$) and worse sleep quality ($F(1,96) > 3.97$, $p < 0.05$).<br>• Strength of association for overall health: **not applicable**<br>• Strength of association for sleep: **not applicable** |
| Wallenius and al., 2009 | Describe the reasons that motivate young people to play video games. Observe the relationships between playing video games and sleep & perceived health. | Fatigue, general health | Waking-time tiredness and greater number of health complaints were related to an increase in ritualized motives to play video games.<br>In addition, later bed-going time among girls and poorer health status among boys predicted higher ritualized motivation. | • Ritualized motives contribute significantly to walking-time tiredness in boys (Beta=0.07, $p<0.01$) and girls (Beta=0.08, $p<0.01$).<br>• Strength of association for tiredness: **weak.**<br>• Ritualized motives contribute significantly health complaints in boys (Beta=0.06, $p<0.01$) and girls (Beta=0.06, $p<0.05$). |

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| | | | | • Strength of association for general health: **weak.** |
| Weaver and al., 2009 | The goal of this study was to distinguish adult video-game players from non-players on the basis of personal and environmental factors. | General health status, BMI. | Video game players reported poorer health status than non-players.<br>Video-game players reported higher BMI. | • Video-game players had a higher BMI then non-gamers (M=28.06 vs M=26.55, $p<0.05$).<br>• As per canonical correlation, strength of association for BMI: **moderate**.<br>• Video-game players reported a poorer health status then non-players (M=3.63 vs M=3.86, $p<0.05$)<br>• Strength of association for health status: **not applicable.** |
| Zapata and al., 2006 | The objective of the present study was to evaluate the presence of pain and musculoskeletal pain syndromes in adolescents and associate them to computer and video game use. | Musculoskeletal symptoms | In the univariate analysis, no statistical association was observed between video game use and back pain, pain in trapezius muscle, upper limb pain and diffuse pain. | • No statistical association was observed between video game use and back pain, pain in trapezium muscle, upper limb pain and diffuse pain **(correlation statistics not presented).**<br>• Strength of association for musculoskeletal symptoms: **no association** |

BMI= body mass index, OR= odd ratio, F= omnibus F test, M= mean,