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The association of family, friends and teacher support with girls' sport and physical activity on the island of Ireland.

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SOCIAL SUPPORT & GIRLS' SPORT IN IRELAND

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5 **and physical activity on the island of Ireland.**
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For Peer Review

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26 **Abstract**

27 *Background:* The current study was the largest physical activity (PA) surveillance
28 assessment of youth undertaken in Ireland in recent years. The purpose of this
29 research was to assess the impact of social support, while controlling for age and
30 screen time, on PA and sport participation, across a representative sample of Irish
31 female youth.

32 *Methods:* A total of 3,503 children (mean age: 13.54 ± 2.05 years) across the island
33 of Ireland participated. Participants completed a previously validated electronic
34 questionnaire while supervised in a classroom setting, which investigated their; 1)
35 levels of PA, 2) screen time, 3) community sport participation, and 4) social support
36 (friend, family, and teacher) to be physically active/partake in sport.

37 *Results:* There were significant differences, with medium and large effect sizes, for
38 social support from friends and family across types of sports participation. Specifically,
39 girls who participated in the most popular team sports, when compared to the most
40 popular individual sports, reported higher social support scores for friends and family
41 structures.

42 *Conclusions:* Findings from this study confirm the contributing influence of friends and
43 family as sport and PA support networks for girls. Interventions should consider the
44 importance of culturally relevant team sports for PA engagement in female youth.

45
46 **Keywords:** Physical activity; screen time; individual sport; team sport; female;

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Introduction

Taking part in physical activity (PA) during childhood and adolescence has a multitude of health benefits^{1,2}. Yet, globally, participation levels in this age group remain low³. In particular, the existing gender differences among adolescents are of concern, specifically the emergent gap that has developed in PA over a 15-year timeframe (2001 and 2016)⁴. Adolescent females consistently report lower levels of PA^{4,5}, and this decline increases further with age^{6,7}. Most recent nationally representative surveillance data of youth sport and PA from the Children's Sport Participation and Physical Activity (CSPPA 2018) study (n=6,651; mean age=13.8 ± 2 years) revealed that Irish female adolescents, at all ages, were less likely to meet PA guidelines⁸.

The CSPPA 2018 study⁸ across the Republic of Ireland reported that only 10% of second level school adolescents met the PA guidelines⁹ and only 58% of children and youth participated in community sport at least once a week. It is well-established that boys participate in sport more frequently than girls, specifically during adolescence^{6,8}, with data from the Health Behaviour in School-Aged Children (HBSC) survey finding that 75% of 10- to 14- year old boys report playing with a club, when compared to 59% of girls¹⁰. Given the argument that organised sport is more tailored to suit boys⁴ and changing the PA behaviour of adolescent girls is challenging⁶, much work is needed in order to increase the PA and sport participation of Irish female adolescents.

Updated evidence from [Tremblay et al.](#)¹¹ have defined sedentary behaviour as any waking behaviour (independent of sleep) that is characterised by an energy expenditure ≤ 1.5 metabolic equivalents (METs), while in a sitting, reclining or lying posture. As a research domain, sedentary behaviour has generated significant

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2
3 73 attention in recent years amongst children and youth, due to the specific attraction of
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5 74 electronic games, computer use and the over-reliance of screen-based
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7
8 75 engagement¹²⁻¹⁴. It is unsurprising given the surge in data^{12,14,15} that physically active
9
10 76 pursuits during free time appear to be slowly disappearing at the expense of screen
11
12 77 time in developed countries for adolescents.

13
14 78 In the Biddle et al., (2014)¹⁶ comprehensive review of interventions designed to
15
16 79 reduce sedentary behaviours in young people, screen time was found to play a
17
18 80 critical role in the causation of obesity due to its co-occurrence with other unhealthy
19
20 81 behaviours. Specific findings by O'Brien et al., (2018)¹² on the high prevalence of
21
22 82 overweight and obesity in Irish adolescent girls (29.4%) suggests that there may be
23
24 83 a gender-related association between higher levels of body composition and screen
25
26 84 time engagement. Given the gender mismatch between girls and boys in terms of PA
27
28 85 and sport participation^{8,17}, strengthened by the recent increased levels of screen time
29
30 86 pursuits¹⁵, further efforts to understand the determinants of these behaviours in girls
31
32 87 are warranted.

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37 88 Current research on female youth reveals that having fun¹⁸, keeping fit, and being
38
39 89 with friends¹⁹ are key motivators for female youth involvement in sport and PA.

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41
42 90 Laird et al., (2016)²⁰ previously highlighted that there was some evidence to suggest
43
44 91 that social support could positively influence the PA levels of adolescent girls,
45
46 92 however, such associations were not well understood. From a sport perspective
47
48 93 specifically, a systematic review of social support in youth observed that parental
49
50 94 and peer support have significant potential in shaping youth sport experiences from
51
52 95 both a positive (motivation, participation) and negative (drop-out) lens²¹. Social
53
54 96 support can be emotional (encouragement), instrumental (financial) or informational
55
56 97 (advice), and is defined as the resources provided by the interactions with significant
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3 98 others that can influence behaviour²². Evidence suggests that such support for
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5 99 young female adolescents' can come from parents, guardians, friends, teachers and
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8 100 coaches, as these key stakeholders can all have a positive impact on youth's
9
10 101 involvement and enjoyment in sport^{21,23}. Teachers, however, are among a cohort
11
12 102 that are under researched in relation to how they support female adolescent PA²⁰.
13
14 103 In Ireland, current research with girls (n = 331; mean age = 10.92 ± 1.22 years)
15
16 104 observed that the most pertinent PA and sport participation barriers included lack of
17
18 105 time, fear of injury, and the negative relationships established with coaches and
19
20 106 teachers¹⁹. At state level, there have been a number of mass media campaigns and
21
22 107 recent policies introduced in Ireland to try and overcome the poor engagement in PA
23
24 108 and sport participation among women and girls^{24,25}. The Sport Ireland Policy on
25
26 109 Women in Sport²⁴ also has a key aim towards increasing levels of sport and PA;
27
28 110 focusing on women and girls of all ages, ability levels and socioeconomic status.
29
30 111 This Sport Ireland policy²⁴ objective aligns with the National Strategy for Women and
31
32 112 Girls 2017-2020²⁵, by seeking to reduce the gender gradient and the female dropout
33
34 113 rates from sport and PA.
35
36 114 In order to develop and implement targeted strategies to increase PA and sport
37
38 115 participation among the female youth population in Ireland, it is important to assess
39
40 116 their current participation, and the existing patterns and influences on girls' screen
41
42 117 time exposure. The purpose of this paper is to gain an insight into the impact of
43
44 118 family, friends and teachers' social support, on female youth participation in sport
45
46 119 and physical activity, from their perspective, by specifically examining their
47
48 120 responses from the most recent nationally representative survey⁸.
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121 Methods**122 Overview of the Study**

123 This study evolved from the nationally representative (N=6,651; range 10 to 19 years
124 of age; 53% female) CSPPA 2018 study⁸ that collected PA data from children and
125 adolescents across the island of Ireland between January and June 2018.

126 Ethical approval was provided by the Ethics Research Committees of the University
127 of Limerick (EHSREC27_11_19) in January 2018. Information about the design,
128 protocol, and sampling of the CSPPA study has been published elsewhere⁸. Briefly,
129 from the included sample of schools, both primary and second level school
130 management (Principal and Deputy Principal) on the island of Ireland were provided
131 with a comprehensive overview and outline of the intended data collection protocol.

132 Following agreement to participate from school management, information sheets and
133 consent forms were then distributed to the selected school samples. Due to the
134 targeted focus of data collection with children and adolescents, informed parental
135 consent and child assent were the essential requirements for eligible participation.
136 All participants were free to withdraw from the CSPPA 2018 study at any stage.

137 Participants and Setting

138 As part of this 8-year follow-up investigation, all schools in the Republic of Ireland
139 that participated in the previous CSPPA 2010 study²⁶ were once again invited to
140 participate in the CSPPA 2018 study⁸. An important amendment was the inclusion of
141 schools from Northern Ireland, specifically as a strategy to obtain representative data
142 at an all-island level. For these reasons, a systematic one stage cluster sampling
143 method was undertaken to allow for a larger sample of children to be recruited
144 across the island of Ireland.

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3 145 A total of 102 single gender or mixed-gender primary and second level schools
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5 146 consented to participate from the (Republic of Ireland (72.8%, n=74) and Northern
6
7 147 Ireland (27.2%, n=28). For the current gender specific study, the school stratification
8
9 148 criteria included the following: 1) school gender: females only, 2) school socio-
10
11 149 economic status: disadvantaged or non-disadvantaged (Republic of Ireland) and
12
13 150 percentage of free meals class (Northern Ireland), 3) school location: urban or rural
14
15 151 (categorised by population density) and 4) school size: small, medium or large
16
17 152 (based on total number of pupils). Of the original participant sample in the CSPPA
18
19 153 2018 study (N=6,651; range 10 to 19 years of age), the present investigation of
20
21 154 female only participants comprised of 3503 children (mean age 13.54 ± 2.05 years).
22
23 155 The age-range breakdown of the female sample was; 32.7% (n=1,145) 10 to 12-year
24
25 156 olds, 48.6% (n=1,701) 13 to 15-year olds, and 18.8% (n=657) 16 to 19-year olds.

Data Collection**Measure**

26
27 159 **Self-Report Questionnaire.** The CSPPA 2018 questionnaire was administered
28
29 160 using a laptop/tablet technology, following the same protocol employed in the
30
31 161 CSPPA 2010²⁶ and the Take PART studies²⁷. The survey was completed in school
32
33 162 classrooms, with researchers and teachers being available to assist with any literacy
34
35 163 issues. All items included in the 2018 CSPPA study questionnaire were deemed to
36
37 164 be developmentally appropriate for the children being surveyed. Instruments used
38
39 165 had high validity, alongside internal consistency and are previously reported in the
40
41 166 Woods et al., (2010)²⁶ protocol. For the purpose of the current study, the specific
42
43 167 variables identified for analysis included: 1) Levels of PA, 2) screen time behaviours
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45 168 (defined as minutes spent sitting in front of a TV/DVD/video or computer screen²⁶, 3)
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47 169 community sport participation, and 4) social support structures (friend, familial –
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3 170 defined as a member of your household, and teacher) to be physically
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5 171 active/participate in sport.
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8 172 For the social support structures variable, the allocated questions were consistent
9
10 173 across the three perspectives (friend, familial and teacher), specifically targeting a
11
12 174 typical week, and the effect that these three groups have on their engagement in PA
13
14 175 and sport. Such questions included; 1. how often has a friend/member of your
15
16 176 household/teacher encouraged you to do physical activities or play sport; 2. how
17
18 177 often do your friends/members of your household/teachers tell you that you are
19
20 178 doing well in physical activities or sports. The answer options to these questions
21
22 179 were as follows; never, once, sometimes, almost every day, or every day.
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24
25
26 180 Following the Ng et al., (2019)²⁸ PA grouping protocol, participants were categorised
27
28 181 as inactive, slightly active, almost fulfilling the PA recommendations, and fulfilling the
29
30 182 PA recommendations. For quantifying participants' adherence to the recommended
31
32 183 screen time guidelines, previous Canadian research procedures for children and
33
34 184 youth were employed; ≤ 120 minutes of daily screen time²⁹. How much
35
36 185 encouragement participants received from each of the three social support structures
37
38 186 had a standardised, and a maximally derived score of 25. In the context of the most
39
40 187 popular sports participated in, for comparative purposes, both dance and swimming
41
42 188 were classified as individual pursuits, similar to other research^{30,31}. Team sports
43
44 189 were comprised of Gaelic football, soccer and camogie.
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191 Data Analysis

52 192 The current dataset was analysed using the Statistical Package for Social Sciences
53
54 193 (SPSS), version 26.0 for Windows. All data were checked for normality before
55
56 194 statistical analysis. Descriptive statistics for PA, screen time, community sport
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3 195 participation and social support (friends, family, and school) were calculated via
4
5 196 means or medians, standard deviations or interquartile ranges, minimums,
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7 197 maximums and percentages where appropriate.
8
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10 198 A one-way between-groups analysis of variance (ANOVA) was conducted to
11
12 199 compare the average reported daily screen time (minutes per day), when
13
14 200 differentiated by PA grouping. Chi-square tests for independence were used to
15
16 201 examine whether PA grouping and daily screen time recommendations existed. A
17
18 202 further one-way between-groups analysis of variance of covariance (ANCOVA) was
19
20 203 conducted to explore the impact of social support from friends, family and teachers,
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22 204 when differentiated by the five most prevalent (popular) team or individual sports of
23
24 205 participation. Participants' age and mean daily screen time engagement were used
25
26 206 as the covariates in this analysis. The reported eta squared values correlate with the
27
28 207 ³² classification values of .01 as a small effect, .06 as a medium effect and .14 as a
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33 208 large effect.
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Results

Descriptive and frequency data for the overall sample relating to age, location, school, and disability status is provided in Table 1.

INSERT TABLE 1 APPROXIMATELY HERE

Physical Activity (self-report)

Figure 1 documents the prevalence of participants self-reporting to meet the daily 60-minute PA recommendation, over the course of a typical 7-day week (inclusive of weekday and weekend structure). Self-report PA data showed that 18.4% of participants (n=645) met the 60-minute MVPA guideline on 0-2 days a week (inactive), 37.6% (n=1317) met the guidelines on 3-4 days a week (slightly active), and 33.9% (n=1188) met the guidelines on 5-6 days a week (almost fulfilling the PA recommendations). The remaining 10.1% of participants (n=353) met the guidelines 7 days a week (fulfilling the PA recommendations).

INSERT FIGURE 1 APPROXIMATELY HERE

Screen Time Behaviour (self-report)

The overall mean daily screen time for participants was 178.86 ± 183.63 minutes per day (min/d). Following previously reported screen time behaviour guidelines for children and youth²⁹, Table 2 outlines the overall daily screen time (min/d), and the adherence to the associated daily screen time recommendations (≤ 120 min/d), according to PA grouping (inactive, slightly active, almost fulfilling the PA recommendations, and fulfilling the PA recommendations).

INSERT TABLE 2 APPROXIMATELY HERE

A one-way between-groups analysis of variance (ANOVA) was conducted to compare the mean daily screen time (min/d), when differentiated by PA grouping

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234 (inactive, slightly active, almost fulfilling the PA recommendations, and fulfilling the
235 PA recommendations). There was a statistically significant difference in mean daily
236 screen time for the four PA groups: $F(3, 3063) = 27.7, p = .0001$. Furthermore, a
237 chi-square test for independence indicated that significant PA grouping differences
238 were also observed in those self-reporting to meet the daily screen time
239 recommendations (≤ 120 min/day) ($\chi^2 = 74.7, p = .0001$); a statistically higher
240 proportion of those almost fulfilling and those fulfilling the PA recommendations met
241 the daily screen time recommendations (58.2% and 55.3% respectively), when
242 compared to the slightly active and inactive groups (46.1% and 37.2% respectively).

243 **Community Sport participation levels**

244 Of those that participate in sport at least once a week, the five most popular team
245 and individual sports undertaken can be seen in Figure 2. The team sport of Ladies
246 Gaelic Football (24% $n=853$) is the most popular, followed by the individual pursuits
247 of dance (23% $n=813$) and swimming (21% $n=738$).

248 **INSERT FIGURE 2 APPROXIMATELY HERE**

249 **Social Support**

250 All questions relating to the individual social supports of friends, family and teachers
251 to participate in sport had a standardised, and a maximally derived score of 25. Of
252 that 25, the support of friends was reported as the highest form of social support to
253 participants (15.02 ± 3.48), followed by family (14.96 ± 4.58) and then teachers
254 (10.88 ± 3.87).

255 **Relationship between social support and sport participation**

256 A one-way ANCOVA was conducted to explore the impact of social support for
257 friends, family and teachers, while controlling for age and screen time, when
258 differentiated by the most popular team or individual sports. Participants were

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3 259 divided into four groups according to sport participation -Group 1: did not participate
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5 260 in the most popular team or individual sports; Group 2: did participate in the most
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7 261 popular team sports (Ladies Gaelic Football, Camogie, Soccer) only; Group 3: did
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9 262 participate in the most popular individual sports (Dance, Swimming) only; Group 4:
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11 263 did participate in the most popular team and individual sports (see Figure 2).
12
13

14 264 After adjusting for age and screen time, there was a statistically significant difference
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16 265 for social support from friends across the four types of sports participation groups: F
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18 266 (3, 3062) = 96.24, $p = .0001$ (see Table 3). The medium effect size, calculated using
19
20 267 eta squared, was 0.09. Specifically, post-hoc comparisons using the Tukey HSD test
21
22 268 indicated that the mean social support score in friends for Group 2 (M = 16.32, 95%
23
24 269 CI 16.07, 16.57) was significantly higher and different from Group 3 (M = 14.98, 95%
25
26 270 CI 14.74, 15.22).
27
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29

30 271 There was also a statistically significant difference for familial social support across
31
32 272 the four types of sports participation groups, after adjusting for age and screen time
33
34 273 F (3, 3062) = 172.84, $p = .0001$. The large effect size, calculated using eta squared,
35
36 274 was 0.15. Specifically, post-hoc comparisons using the Tukey HSD test again
37
38 275 indicated that the mean familial social support score for Group 2 (M = 16.81, 95% CI
39
40 276 16.48, 17.17) was significantly higher and different from Group 3 (M = 15.42, 95% CI
41
42 277 15.11, 15.73).
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46 278 Finally, there was also a statistically significant difference for social support from
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48 279 teachers across the four types of sports participation groups, after adjusting for age
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50 280 and screen time: F (3, 3062) = 18.80, $p = .0001$. The small effect size, calculated
51
52 281 using eta squared, was 0.02. Specifically, post-hoc comparisons using the Tukey
53
54 282 HSD test again indicated that the mean social support score in teachers for Group 2
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283 (M = 11.65, 95% CI 11.36, 11.95) was significantly different from Group 3 (M =
284 10.50, 95% CI 10.22, 10.78).

285 INSERT TABLE 3 APPROXIMATELY HERE

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287 **Discussion**

288 Globally, a majority of children and adolescents are not meeting PA guidelines for
289 health, with girls consistently reporting lower engagement than boys⁴. In order to
290 upscale known effective policies, and develop new targeted strategies to increase
291 the involvement in sport and PA, it is important to gain an insight into the factors that
292 influence females' participation. Social support is regularly reported in the literature
293 to influence involvement in sport and PA^{33,34}, however, this support can come from a
294 variety of sources²⁰. Teachers, family and friends are the selected sources of social
295 support reported in this study. The aim of this study was, therefore, to assess the
296 patterns and support structures influencing Irish adolescent females' participation in
297 sport and PA, by examining self-report data from 10-18-year-old females that
298 participated in the most recent all-island CSPPA 2018⁸ study.

299 *Physical activity/inactivity – screen time usage*

300 Given that only 1 in 10 (10.1%; n=353) participants in the current study reported
301 meeting the PA guidelines for health⁹ and approximately 1/2 (49.4%; n=1516) met
302 the screen time guidelines for health¹¹, it could be argued that the high average self-
303 reported daily screen time of these females (178.86 minutes per day) could be
304 contributing to the very low levels of PA among this cohort³⁵. Previous research in
305 Ireland¹² has also reported this relationship amongst adolescent girls. Although a
306 cause and effect relationship between PA and screen time cannot be determined in
307 this cross-sectional study, a recent systematic review of reviews³⁶ reported that
308 higher amounts of screen time alone can lead to a variety of health problems for
309 young people including adiposity and depressive symptoms; factors that a physically
310 active lifestyle has the potential to reduce^{37,38}.

311

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312 *Physical activity grouping and screen time association*

313 Results show that there were statistically different screen time scores for each of the
314 PA groupings ($p < 0.001$). The inactive ($n = 645$) and slightly active ($n = 1317$) groups
315 both had higher screen time activity (228.8 ± 221.5 min/d; 188.9 ± 186.4 min/d,
316 respectively) compared to those almost fulfilling ($n = 1188$; 146.7 ± 154.5) and those
317 fulfilling the PA recommendations ($n = 353$; 156.4 ± 161.3). Furthermore, there was
318 also a statistical difference among the PA groupings and adherence to the
319 recommended daily screen time usage of ≤ 120 minutes per day³⁹. Only 37.2% and
320 46.1% of the inactive and slightly active groups, respectively, met screen time
321 recommendations; while encouragingly, 58.2% and 55.3% of those almost fulfilling
322 and those fulfilling the PA recommendations met these guidelines. This is in line
323 with previous Irish research that reported a significant negative correlation between
324 MVPA and daily television viewing among adolescent girls¹². Although these
325 findings are only cross-sectional, such evidence challenges the conclusion that PA
326 and sedentary behaviour are unrelated⁴⁰ and warrants further investigation.

327 *Patterns of participation in sport*

328 Woods et al. (2018)⁸ previously reported that non-participation in community sport
329 has increased from 40-45% from 2010 to 2018, respectively. Globally, the age-
330 related decline in female PA has been well documented^{6,7,41}; however, this current
331 study has further highlighted that no one sport or identified PA is being regularly
332 participated in by more than a quarter of female participants (see Figure 2). For the
333 minority of adolescent females in Ireland that participate in sport, they participate in a
334 wide variety of team and/or individual community sports, with Ladies Gaelic Football
335 (24%), dance (23%) and swimming (21%) as the most popular. Ladies Gaelic
336 Football has its grassroots in local community groups throughout Ireland, and the

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337 finding that it is the most popular sport played by adolescent girls is encouraging.

338 The National Governing Body (Ladies Gaelic Football Association) has invested
339 efforts into increasing participation rates for this age group through its Gaelic4Girls
340 programme¹⁹, and as key partners in the aforementioned 20x20⁴² campaign.

341 Previous research has already documented how critical dance classes are in helping
342 adolescent girls meet current PA guidelines for health⁴³, whilst swimming can also
343 play an important role in the skeletal health of adolescents⁴⁴. These findings provide
344 additional evidence and powerful arguments for policy makers to invest in these
345 specific community sports to promote greater participation rates for female youth in
346 Ireland.

347 *Influence of social supports*

348 Friends social support was significantly higher for those playing the most popular
349 team sports (Ladies Gaelic Football, Camogie, Soccer) only (Group 2), when
350 compared to those playing the most popular individual sports (Dance, Swimming)
351 only (Group 3) (see Table 3), with a medium effect size observed. This ~~emerging~~
352 ~~relationship is a positive~~ finding is positive for female youth, as previous research
353 has highlighted that sports participation increases the likelihood of friends being
354 ~~involved~~ involved, which has proven effective for adolescent PA levels and wellbeing ⁴⁵.
355 This is ~~also~~ supported by Springer et al., (2006)³³ who allude to peer support being a
356 positive influence on increasing the number of female youths engaging in sport and
357 PA. Irish data ~~concur with this finding~~^{46,47} ~~surmising~~ has specifically observed that
358 friends are a key component for taking part in both individual and team sports and
359 PA among adolescent females, irrespective of their activity levels or location.
360 Most recent findings with a large adolescent cohort (N=1484; mean age =
361 11.23±1.74 years old; 46% male) have observed a strong wellbeing association

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3 362 between PA and happiness⁴⁸, further outlining the positive psychological
4
5 363 contribution of peers and friends within youth sport settings. Theory advocates that
6
7 364 the influence of peers and friends as supporting networks increases during
8
9 365 adolescence, whilst family influences decrease^{49,50}, which is particularly pertinent
10
11 366 among female youth^{34,51,52}. Our findings suggest that female orientated interventions
12
13 367 should therefore consider focusing on some culturally relevant Irish team sports,
14
15 368 such as Ladies Gaelic Football and Camogie, which promote the involvement of
16
17 369 friends, as a starting point.
18
19 370 Previous research has highlighted the benefit of having peers within and outside of
20
21 371 one's sport to serve as both role models and supporters to youth participation⁵³.
22
23 372 Family support, however, was also a very important influence for those involved in
24
25 373 the most popular individual and team sports in the current study, given the large
26
27 374 effect size observed. As a result, family role modelling may still play an important
28
29 375 part in the encouragement of Irish adolescent females to engage in some of the most
30
31 376 popular team and individual sports across the country. Such is the example of the
32
33 377 Dads and Daughters Exercising and Empowered (DADEE) program in Australia,
34
35 378 which has illustrated success in younger girls⁵².
36
37 379 While teachers had the least influence in the social support domain, they did score
38
39 380 higher in supporting and encouraging female adolescents to participate in the most
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41 381 popular team sports, when compared to the most popular individual sports. The
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43 382 small effect size (0.02) for teachers in relation to their support for engaging
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45 383 adolescent females to partake in PA, compared to family and friends, is supported in
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47 384 the literature²⁰. In their systematic review, however, Laird et al., (2016)²⁰ were only
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49 385 able to include six studies in their analysis, which specifically examined the influence
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51 386 of teachers' social support for PA in adolescent girls. While the role of teachers'
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3 387 social support might be under-explored in the adolescent PA literature, promising
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5 388 findings, however, were observed by Eather et al., (2013)⁵⁴ who found that social
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7 389 support from teachers mediated PA behaviour change in primary school children.
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10 390 There is no such research available on the effects of teacher support for sports
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12 391 participation in either primary or secondary school-aged children. The current
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14 392 study's findings for adolescent girls highlights the need for more teacher involvement
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16 393 in sport and PA promotion; considering that students spend a significant proportion
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18 394 of their time in the school setting⁵⁵. Furthermore, teachers can be great advocates
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20 395 for student involvement in sport and PA by being supportive role models and agents
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22 396 of change^{56,57}.
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26 397 The cross-sectional nature of the study somewhat restricts the interpretation of our
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28 398 findings, particularly as there were only a small percentage of participants that were
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30 399 both active and participating in sport. Nevertheless, the social supports surrounding
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32 400 the participants appear to be key mediators for why they partake in sport. A
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34 401 prospective cohort design is recommended in order to confirm whether the large
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36 402 effect sizes observed for family and friends increase the likelihood of participating in
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38 403 sport and PA; most notably the most popular team sports of Ladies Gaelic Football,
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40 404 Camogie, and Soccer, over the longer term.
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Table 1. Descriptive and frequency data for the overall sample relating to age, location, school, and disability status

Age	M = 13.54 SD = 2.05
% Participants From Republic of Ireland	72.8% (n=2551)
% Participants From Northern Ireland	27.2% (n=952)
% Participants Attending Primary School	23.8% (n=835)
% Participants Attending Post-Primary (Secondary) School	76.2% (n=2668)
% Participants Attending Mixed School	55.4% (n=1943)
% Participants Attending Girls Only School	44.5% (n=1560)
% Of Schools DEIS* (Republic of Ireland Only)	9.5% (n=243)
% Schools Rural Location	50.5% (n=1770)
% Schools Urban Location	49.5% (n=1773)
% Participants with a Disability	14.5% (n=508)

Note. % = percentage; M = mean; SD = standard deviation; n = sample size; DEIS = Delivering Equality of Opportunity in Schools;

Table 2. Overall daily screen time and adherence to the associated screen time recommendations, according to physical activity grouping.

Variable	Inactive (n=645)		Slightly Active (n=1317)		Almost fulfilling PA recommendations (n=1188)		Fulfilling PA recommendations (n=353)		F	p-Value
	M	SD	M	SD	M	SD	M	SD		
Min/d overall screen time	228.8	221.5	188.9	186.4	146.7	154.5	156.4	161.3	27.7	.0001
Met screen time recommendations (≤120 min/day) %	37.2%		46.1%		58.2%		55.3%		χ^2	p-Value
									74.7	.0001

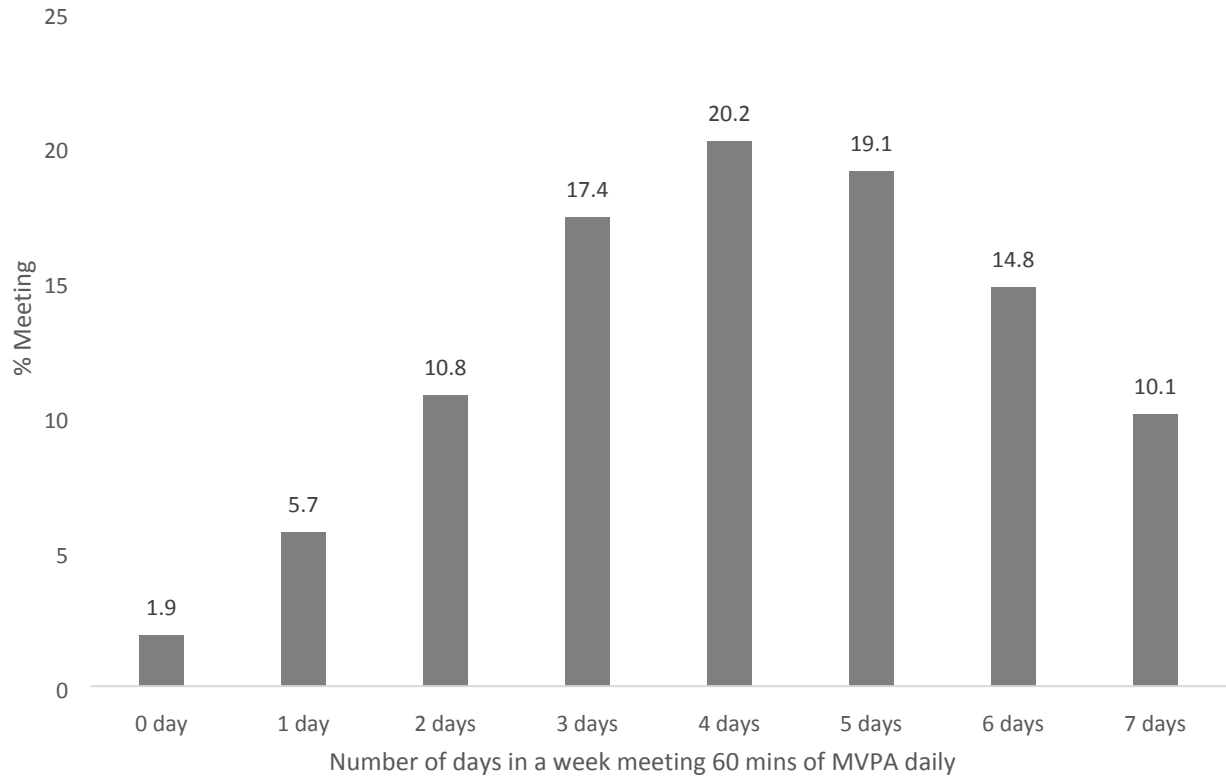
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Table 3. Mean (95% CI) and post-hoc assessments for social support variables, according to the team and individual sport groupings.

Variable	Team Sport or Individual Sport Groupings				<i>p</i> -Value	Post-Hoc Tests	Partial eta squared
	Group 1 No Team or Individual Sports	Group 2 Most Popular Team Sports	Group 3 Most Popular Individual Sports	Group 4 Most Popular Team & Individual Sports			
Friends Social Support	14.09 (n=1359) 95% CI: 13.93, 14.26	16.32 (n=581) 95% CI: 16.07, 16.57	14.98 (n=646) 95% CI: 14.74, 15.22	16.22 (n=481) 95% CI: 15.97, 16.50	.0001	*G1<G2 *G1<G3 *G1<G4 *G2>G3 *G3<G4	0.09 Medium
Familial Social Support	13.19 (n=1359) 95% CI: 12.98, 13.40	16.81 (n=581) 95% CI: 16.48, 17.13	15.42 (n=646) 95% CI: 15.11, 15.73	17.02 (n=481) 95% CI: 16.66, 17.38	.0001	*G1<G2 *G1<G3 *G1<G4 *G2>G3 *G3<G4	0.15 Large
Teacher Social Support	10.46 (n=1359) 95% CI: 10.27, 10.66	11.65 (n=1359) 95% CI: 11.36, 11.95	10.50 (n=1359) 95% CI: 10.22, 10.78	11.31 (n=1359) 95% CI: 10.98, 11.63	.0001	*G1<G2 *G1<G4 *G2>G3 *G3<G4	0.02 Small

Note. *n* = sample size; 95% CI: = 95% confidence intervals; **p* ≤ 0.001; G1 = group 1; G2 = group 2; G3 = group 3; G4 = group 4.

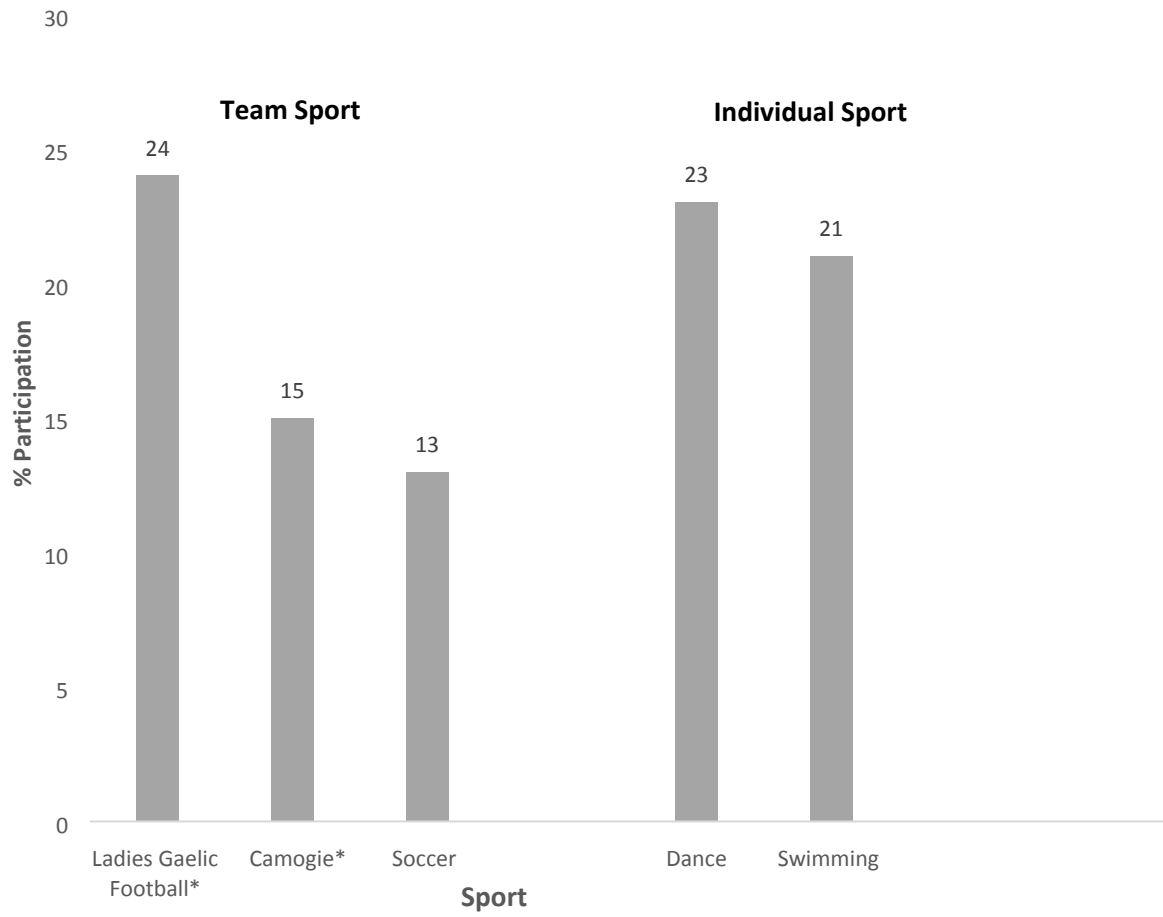
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Note. % = percentage; MVPA = moderate-to-vigorous physical activity

Figure 1. Percentage of participants meeting 60 mins of daily MVPA in a week

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*Ladies Gaelic Football and Camogie are Irish field invasion games for female only participants based on the male equivalents of Gaelic Football and Hurling respectively.

Figure 2. The five most popular team and individual sports undertaken by participants