

Physical Activity levels between Boys and Girls, and Weekends and Weekdays



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BACKGROUND:

- Studies have reported that physical activity and sedentary behavior vary by sex and day of the week. However, little is known about these variations in Central Illinois.

AIM:

- To examine physical activity levels among children in Central Illinois across weekdays and weekends, and explore differences by sex.

METHODS:

- A pilot field study was conducted with preschool and school-age children (5–11 years) in Central Illinois. Accelerometers measured physical activity and sedentary time. Participant demographics were summarized using frequencies and percentages. The Mann–Whitney U test assessed differences in activity and sedentary time by sex and day (weekday vs weekend).

CONCLUSION:

- Boys and weekdays showed higher physical activity levels across most categories. These findings suggest a need for targeted strategies to increase physical activity among girls and during weekends

RESULTS:

Boys (n = 22) had higher moderate (68.46 vs 52.75; $p < 0.001$), vigorous (18.75 vs 12.42; $p = 0.0003$), and total physical activity (416.29 vs 400.42; $p = 0.012$) compared to girls (n = 11). Light (323.42 vs 290.92; $p = 0.0011$), moderate (66.75 vs 52.75; $p = 0.0099$), vigorous (18.88 vs 9.5; $p < 0.0001$), and total physical activity (416.83 vs 384.08; $p = 0.0009$) were all higher on weekdays than weekends.

LEGEND:

- ST = Sedentary Time
- LPA = Low-Intensity Physical Activity
- MPA = Moderate-Intensity Physical Activity
- VPA = Vigorous-Intensity Physical Activity
- TPA = Total Physical Activity
- P-Value < 0.05 (5%) = Results are Statistically Significant
- Green Highlight = Statistically Significant



Overall: Weekday vs Weekend

Variable	Weekday	Weekend	p-value
ST	471.29 (426.56 - 532.5)	495.08 (424.33 - 570.17)	0.1746
LPA	323.42 (292.44 - 360.21)	290.92 (254.67 - 343.67)	0.0011
MPA	66.75 (52 - 82.17)	52.75 (41 - 72.25)	0.0099
VPA	18.88 (12.25 - 31.1)	9.5 (5.33 - 17.75)	<0.0001
TPA	416.83 (374.85 - 457.87)	384.08 (303.58 - 430.92)	0.00098

Overall: Male vs Female

Variable	Male	Female	p-value
ST	474.46 (424.62 - 544.88)	480.92 (430.67 - 569.29)	0.3306
LPA	313.62 (284.75 - 363.15)	322.17 (274.88 - 346.96)	0.5499
MPA	68.46 (51.73 - 86.98)	52.75 (43.75 - 66.83)	<0.0001
VPA	18.75 (11.35 - 32.21)	12.42 (8.00 - 19.12)	0.0003
TPA	416.29 (361.98 - 474.62)	400.42 (348.29 - 429.54)	0.012

Males: Weekday vs Weekend

Variable	Weekday	Weekend	p-value
ST	467.58 (419.25 - 533.83)	485.83 (425.21 - 553.69)	0.1854
LPA	316.58 (291.81 - 367.92)	294.79 (260.23 - 347.33)	0.01603
MPA	71.96 (56.98 - 87.73)	59.33 (44.19 - 79.23)	0.03437
VPA	23.21 (13.29 - 34.44)	11.08 (6 - 19.42)	<0.0001
TPA	426.46 (375.23 - 482.58)	394.62 (314.9 - 442)	0.007062

Females: Weekday vs Weekend

Variable	Weekday	Weekend	p-value
ST	477.88 (435.5 - 529.92)	524.67 (400.25 - 606.58)	0.6638
LPA	327.12 (302.48 - 347.69)	272.42 (240.42 - 335.25)	0.01976
MPA	56 (44.71 - 68.33)	50.17 (37.17 - 56.67)	0.1601
VPA	13.08 (9.29 - 19.9)	8.17 (4.67 - 16)	0.0394
TPA	405.21 (373.21 - 431.21)	339.92 (303.42 - 416.25)	0.03483