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PASSIVE SCREEN TIME ASSOCIATED WITH UNHEALTHY DIETARY CONSUMPTION AND PHYSIOLOGICAL CHARACTERISTICS: A CLOSER LOOK AT CHILDHOOD BEHAVIORS

Oral Contributions
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Introduction: TV, computers, and video games are sedentary activities associated with childhood obesity. While studies show that screen time promotes unhealthy behaviors, there is evidence that these activities have varying effects due to food advertisements and activity levels.

Methods: 1003 sixth graders were divided into three cohorts: high television (2-6 hours/day), high computer/video games (2-6 hours/day), and low screen time (<0.5hours/day). We studied unhealthy snack consumption, lipid profiles, resting and recovery heart rate, blood pressure (BP), and body mass index (BMI). Kruskal-Wallis tied ranks, Dunn's, and multivariate analysis tests were performed to compare self-reported dietary behavior and physiologic parameters.

Results: High screen time cohorts had higher unhealthy snack consumption compared to low screen time. High TV viewers had higher French fry/chip consumption than high computer/video game users ($p<0.05$). High TV also performed worse, particularly for systolic BP ($p=0.0002$), diastolic BP ($p=0.0005$), and BMI ($p=0.0346$). Compared to the cohort with low screen time, the high computer/video game cohort was not associated with elevated BP or BMI (see figure).

Conclusions: While overall screen time promotes poor health behaviors, our results suggest that TV screen time is associated with greater cardiovascular risk. Passive screen time significantly contributes to unhealthy snack consumption and should be a major focus of health interventions.

Characteristic	Low ST	High C/VG	High TV	Overall p-value	p-value[1]	p-value[2]	p-value[3]
	n=208	n=281	n=430				
Snack Consumption	Mean (times/day)						
Fried meat	0.230	0.359	0.287	0.0251	*	NS	NS
French fries/chips	0.365	0.559	0.733	<0.0001	*	*	*
Kool-Aid/sports drinks	0.461	0.688	0.611	0.0016	*	*	NS
Soda	0.275	0.488	0.536	<0.0001	*	*	NS
Diet soda	0.162	0.227	0.152	0.0565	NS	NS	NS
Baked goods	0.539	0.549	0.605	0.2383	NS	NS	NS
Chocolate candy	0.439	0.579	0.477	0.2148	NS	NS	NS
Total snack consumption	2.434	3.459	3.411	<0.0001	*	*	NS
Physiologic	Least Square Means						
Total cholesterol (mg/dl)	157.64	161.58	159.89	0.4039			
HDL (mg/dl)	51.81	52.54	51.38	0.5799			
LDL (mg/dl)	87.27	88.09	88.03	0.9462			
Triglycerides (mg/dl)	101.56	113.53	110.21	0.1789			
Random Glucose (mg/dl)	96.12	98.36	99.08	0.1775			
Resting HR (beats/min)	80.76	82.46	82.53	0.1418			
Recovery HR (beats/min)	102.92	108.46	109.17	0.0003	0.0043	0.0003	1.0000
Average SBP (mm Hg)	104.23	104.61	108.42	<0.0001	1.0000	0.0002	0.0002
Average DBP (mm Hg)	60.93	61.35	63.91	<0.0001	1.0000	0.0001	0.0005
BMI (kg/m^2)	19.46	20.54	21.52	<0.0001	0.0568	<0.0001	0.0346

SBP=systolic blood pressure; DBP=diastolic blood pressure; BMI=body mass index
[1]Post-hoc pairwise comparison for low screen time and high computer/video games
[2]Post-hoc pairwise comparisons for low screen time and high TV
[3]Post-hoc pairwise comparison for high computer/video games and high TV
[4]Unhealthy snack consumption is expressed as the mean value of the daily frequency (0 to 3 or more times per day)
*= Significant by post-hoc pair-wise comparison at $\alpha=0.05$.