

Supplement Content 1

Select studies on the impacts of the physical environment on children

	PHYSICAL HEALTH											BRAIN FUNCTION			EMOTIONAL		PHYSICAL ACTIVITY			REFERENCE [number in article]	NOTES			
	Endocrine disruption	Lung function growth, respiratory	Childhood leukemia/cancers	Neurotoxicity	Obesity	Other medical conditions	Motor Ability / Fitness	Developmental delays	Cognitive function	Attentive capacity	Testing/Academic achievement	Reduced stress	Delayed onset melatonin (<sleep)	General Use   Light PA (ex. active transport)	Moderate PA	Vigorous PA								
<b>ENVIRONMENTAL ATTRIBUTE</b>																								
General	Child care center or school attended																				Finn, et. al. (2002); Pate, et. al. (2004) [5,6]	This could include any aspect of the child care environment (curriculum, staff, demographics, funding, physical environment) and these studies did not separate them. ECERS-R: space and furnishings, personal care routines, language-reasoning, activities, interaction, program, structure, and provisions for parents and staff The school environment was the only category that showed significant influence in energy expenditure		
	Assessed overall quality of the child care setting																				Dowda et.al. (2009) [34]			
	Perceived importance of the school physical environment																						Fein et.al. (2004) [69]	
Neighborhood Context	Food environment																					Story, et. al. (2009); Wells (2007) [37, 9]		
	Available transit, sidewalks, controlled intersections, traffic control																					Boarnet (2005), in Davison, et.al. (2006) [39, 19]		
	Sidewalk design (surfaces, etc)																					Jago (2005) [40]		
	Perceived safety from crime (street lighting, order, aesthetics, etc)																					Day et. al. (2006), Davison et.al. (2006) [8,19]		
	Proximity to freeways, or busy-road barrier																					Simons et.al. (2008), Timperio (2006) in Davison et.al. (2006) [22, 38, 19]		
	Proximity to recreational facilities																					Davison et.al. (2006) [19]		
	Proximity to parks or green spaces																					Coombes (2010) [13]		
	Distance from home to school																					Timperio (2006) in Davison et.al. (2006) [38, 19]		
	Type of land use pattern of residence (rural instead of suburban or urban)																					Kyttä (2002) [42]		
Indoor	Daylight inside building																					Heschong (2003) [21]		
	Views of greenery																					Collado et.al. (2015), Wells et.al. (2000 & 2003) [27, 28, 29]		
	Higher number of TVs, computers, (sedentary equipment)																					Bower (2008), Dowda et.al. (2009) [2, 34]		
	Activity-permissive classrooms (stand-biased furniture)																					Benden (2014), Contardo Ayala (2016) [54, 55]		
	More use of electronic media																					Dowda et.al. (2009) [34]		
	Lead in dust or water																					Zhang, et.al. (2013) [24]		
	SVOCs, VOCs (paints, carpets, flooring, consumer products)																					Dodson (2017), Halden (2014) [25, 26]		
	PVC, phthalates, plasticizers (building materials, toys, medical devices)																					Shea (2003) [23]		
	Morning sunlight																						Figueiro and Rea (2010) [20]	
	Barriers (natural or constructed) to getting outside for PA																						Sallis (1998) [10]	
	Indoor Play Space																						Bower (2008), Battista (2014) [2, 45]	
	More time inside buildings																						Coombes (2013) [41]	
	More time outside (gardens, parks)																						Coombes (2013), Sallis (1993), Baranowski (1993), Klesges (1990) [41, 44, 14, 31]	
	Access to playground after hours																						Wechsler, et.al. (2000) [47]	
	Available Outdoor Playspace																						Bower (2008), Battista (2014), Sallis (1993) [2, 45, 44]	
	Outdoor	Landscape features																						
		Shrubs / Trees																						Almanza (2011) [15]
		Topography / broken ground / stones																						Boldemann (2014), Mårtensson et.al. (2013) [32, 16]
		Greenery combined with built elements near buildings																						Mårtensson et.al. (2013) [16]
		More portable equipment																						Dowda et.al. (2009) [34]
Number of balls																							Zask (2001) [46]	
Less fixed / permanent equipment																							Dowda et.al. (2009), Davison et.al. (2006) [34, 19]	
Larger playground size or Outdoor Learning Environment																							Dowda et.al. (2009), Smith (2016) [34, 51]	
Larger observed zone within Outdoor Learning Environment																							Smith (2016) [51]	
More variety of play settings																							Smith (2016) [51]	
Land Uses of Children Activities		Buildings																						Coombes (2013) [41]
		Roads and paved areas																						Coombes (2013) [41]
		Natural surfaces: gardens, parks and grassland																						Coombes (2013) [41]
		Hard surface play areas																						Coombes (2013) [41]
		Spaces designed for gathering																						Smith (2016) [51]
		Forest																						Fjortoft (2001) [43]
		Affordance, spacial centrality and adjacencies of play settings																						Smith (2016) [51]
	Markings on playgrounds / courts																						Stratton and Mullan (2005) [52]	
	Aesthetically pleasing, pleasurable																						Day et.al. (2006) [8]	
	Safe or Perceived safe																						Sallis et.al. (1997), Sallis et.al. (1998) [17, 10]	
Amenities (toilets, lighting)																						Sallis et.al. (1997) [17]		
Climate: temp/humidity, indicated by month or region (e.g. Northeast)																							Söderström (2004), Gordon-Larsen et.al. (2000), Finn et.al. (2002), Baranowski et.al. (1993), Smith (2016) [48, 49, 5, 14, 51]	

**Key**  
+ Positive association  
- Negative association  
? Inconclusive, no effect, or contradicting results between studies, or reported potential methodological flaws that affected results  
\* Indirect association with physical activity (e.g. eliminate barriers to use a space)