Environmental Context Variables Currently Linked in the ABCD Study (Data Release 4.0)

Domain	Measure	Description	Citation or Data Source
State level (mapped to state)			
Laws and Biases	Race Bias	Implicit and explicit attitudes at a state-wide level.	Hatzenbuehler et al., 2020
	Gender Bias	Implicit and explicit attitudes as well as data on women's economic and political status.	Hatzenbuehler et al., 2020
	Ethnicity Bias	Implicit and explicit attitudes as well as data on state-level immigration policies.	Hatzenbuehler et al., 2020
	Marijuana Laws	Categorization of marijuana status as recreational, medicinal, low THC/CBD, or no legal access.	http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx and https://www.mpp.org/states/
Neighborhood Level (mapped to census tract or block)			
Urbanization	Gross Residential Density	Housing units per acre	Ramsey & Bell, 2014
	Population Density	Population Count	https://beta.sedac.ciesin.columbia.edu/data/set/gpw-v4-population-density-adjusted-to-2015-unwpp-country-totals
	Urban Area	Census block defined as "urban" (2,500 or more people) or "rural" (less than 2,500 people)	https://www.census.gov/programs-surveys/geography/about/faq/2010-urban-area-faq.html
Neighborhood Quality	Area Deprivation Index (ADI)	Census tract's socioeconomic disadvantage metrics based off of income, education, employment, and housing quality using data from the American Community Survey	Kind et al., 2014
	Social Vulnerability Index (SVI)	Composite index of 15 census variables indicating an area's potential need for support following a disaster	Flanagan et al., 2011
	Opportunity Atlas (OA)	Estimate of income in adulthood based on the Opportunity Atlas childhood census blocks for children born 1978-1983.	https://www.opportunityatlas.org/
	Child Opportunity Index (COI) 2.0	Census information for 29 variables tapping neighborhood conditions relevant to healthy child development	Acevedo-Garcia et al., 2020
	National Walkability Index	Composite index ranking census block groups according to their walkability	https://www.epa.gov/smartgrowth/smart-location-mapping#walkability
	Lead Risk	Imputed estimate of lead exposure based on age of homes and poverty levels in census tract	Washington Tracking Network, Washington State Department of Health. Childhood lead risk map. https://fortress.wa.gov/doh/wtn/WTNPortal/
Individual Level (mapped to home address)			
Air Pollution	Fine particulate (PM2.5)	Spatio-temporal model predictions measured in μg/m3 at 1km^2 resolution	Di et al., 2019a
	Nitrous dioxide (NO2)	Spatio-temporal model predictions measured in ppb (parts per billion) at 1km^2 resolution	Di et al., 2019b
	Ozone (O3)	Spatio-temporal model predictions measured in ppb (parts per billion) at 1km^2 resolution	Requia et al., 2020
Elevation and Climate	Elevation	Meters above sea level.	https://developers.google.com/maps/documentation/elevation/overview
	Temperature	Maximum daily temperature (degrees Celsius) of seven days prior to MRI scan at 4m^2 resolution	Daly et al., 2015
	Humidity	Maximum daily vapor pressure deficit (hectopascals, hPa) of seven days prior to MRI scan at 4m^2 resolution.	Daly et al., 2015
Motor Vehicles	Traffic	Traffic counts modeled at the 1km^2 resolution	https://downloads.esri.com/esri_content_doc/dbl/us/Kalibrate_TrafficMetrixManual_Version140.pdf
	Proximity to Roads	Number of meters away from major road or highway	https://nationalmap.gov/small_scale/mld/1roadsl.html