

***Neurobehavioral Models of Development: Contributions from the PING (Pediatric Imaging, Neurocognition, and Genetics) Study***

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Recognizing the neurobiological and behavioral consequences of drug and alcohol use during development depends upon our understanding of neurobiological and behavioral development *per se*. In recent years, work in developmental neuroimaging has revealed robust indices of ongoing biological development of the brain that can be monitored noninvasively in children. Many neurodevelopmental biomarkers and functional imaging phenotypes show very protracted trajectories of change with age and apparent regional variation. However, reports of the specific developmental effects and their behavioral correlates have sometimes been inconsistent, probably in part because of modest sample sizes, different age-ranges examined, and variable imaging and behavioral methods. Recently investigators throughout the country collaborated on the large, multisite Pediatric Imaging, Neurocognition, and Genetics (PING) project in which over 1400 children were studied. This imaging genetics study of children between the ages of 3 and 20 enrolled participants at 10 sites throughout the US. The resulting cross-sectional dataset containing genotypes, multimodal imaging phenotypes, and a limited number of developmental and cognitive phenotypes is now shared freely with the research community and has been accessed by people all around the world, through a web-based tool called the PING Portal ([pingstudy.ucsd.edu](http://pingstudy.ucsd.edu)). This presentation will highlight some of the work made possible by PING, and the advantages bestowed by this collaborative approach.