The use of intensive within-person data to demonstrate and specify Gene-Environment

co-actions

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ABSTRACT

Behavioral genetic models do a good job of decomposing main effects of genetic, shared and nonshared environmental influences. However, they do little to address gene by environment transactions. It is proposed herein that this shortcoming is more related to the type of data entered into behavioral genetic models than the models themselves. Using data from the National Study of Daily Experiences, this study applies Cholesky decompositions to investigate common and unique genetic and environmental influences on daily volume of drinking across different types of days. Analysis data set consisted of data from 76 MZ pairs and 43 DZ same-sex pairs. Eight days of data per participant were used to construct drinking outcomes. Two analyses are presented: drinking on weekends versus weekdays and drinking on gooddays versus baddays (based on levels of negative mood). Results reveal 1) unique genetic and nonshared environmental influences on weekday drinking net of corresponding influences on weekend drinking; 2) unique genetic and nonshared environmental influences on badday drinking net of corresponding influences on goodday drinking. Discussion will focus on the potential of diary data to investigate the co-active influences of genes and environments.