

The Importance of Phenotyping for Genetic Studies and Vice Versa

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Abstract:

Complex traits, which do not exhibit classic Mendelian recessive, dominant, or codominant inheritance attributed to a single genetic locus, are often difficult to measure. Psychiatric disorders and substance abuse are two domains with substantial behavioral components, yet behavior or subjective reports of conscious experiences are notoriously difficult to assess. Despite the availability of rigid diagnostic criteria, such as those provided by DSM-IV, there remain issues about whether the classification system is appropriate for traits, and whether the simple sum scores that they employ provide the optimal phenotypic descriptions. Adherence to these pre-determined phenotypes has the advantage of providing some compatibility between research studies, but doing so may unnecessarily limit their value and utility. In this talk I will describe some of our recent work on the detection of non-normality in latent traits, and on the consequences of erroneous assumptions about measurement invariance for the detection of sex-limitation, genotype x environment interaction and genetic variation at different developmental stages.