Individual Differences in Timing of Peak Positive Subjective Responses to d-Amphetamine: Relationship to Pharmacokinetics and Physiology

Christopher T. Smith, Ph.D.¹, Jessica Weafer, Ph.D., Ronald L. Cowan, M.D., Ph.D., Robert M. Kessler, M.D., Abraham A. Palmer, Ph.D., Harriet de Wit, Ph.D., David H. Zald, Ph.D.¹

¹Department of Psychology Vanderbilt University

Correspondence: Christopher Smith Department of Psychology Vanderbilt University PMB 407817 2301 Vanderbilt Place Nashville, TN 37240-7817

> Phone: (615) 322-5584 FAX: (615) 343-8449 e-mail: christopher.t.smith@vanderbilt.edu

Journal of Psychopharmacology Supplementary Materials Smith et al. Supp. Figure 1



Supplementary Figure 1: Mean Arterial Pressure after d-amphetamine varies across DEQ_{H+L+F} Responder Groups.

Early Peak Responders in the Study 2 dataset see their mean arterial pressure (MAP) values increase and fall more quickly with time. This contrasts with the Late Peak Responders whose MAP increases more slowly and peaks later. The Nonresponders show a similar timecourse of MAP compared to the Late Peak Responders but with reduced values at each time point. *Early Responders significantly different from Late Responders at 180 minutes, p<0.05

Smith et al. Supp. Figure 2



Supplementary Figure 2. Early Peak DEQ_{H+L+F} Responders show elevated pulse after d-amphetamine.

Early Peak Responders in the Study 2 dataset see their pulse elevate 60 minutes after oral damphetamine relative to the other groups and remain high relative to the other groups up to the final reading at 180 minutes post drug.

*Early Responders significantly different from Late Responders at 60 and 90 minutes, p<0.05



Supplementary Figure 3. Two independent measures of positive subjective response vary across DEQ_{H+L+F} Groups.

Early Peak Responders in the Study 2 dataset show an early elevation and steeper decline in their POMS Elation ratings and ARCI Amphetamine scores after oral d-amphetamine relative to the other groups.

A) POMS Elation ratings (20 mg dAMPH minus placebo ratings collected at each time point) significantly differ across DEQ_{H+L+F} Groups over time (Group x Time: $F_{(10,1910)}$ =9.92, p<0.001).

B) ARCI Amphetamine scale scores (20 mg dAMPH minus placebo collected at each time point) significantly differ across DEQ_{H+L+F} Groups over time (Group x Time: $F_{(10,1920)}=13.24$, p<0.001). *Early Peak Responders significantly different from Late Peak Responders, p<0.05; #p=0.052