

Table S1. Proportion of additive genetic and individual-specific environmental variance in substance use disorders attributable to five-factor model personality traits, borderline personality features, and specific to substance use disorder

<b>Additive genetic factors</b>			
	Personality	BPF	Specific
<i>Neuroticism</i>	%	%	%
AAD	12.40	0.19 <sup>ns</sup>	82.33
MJAD	2.97	14.86	82.16
ND	13.20	22.85	63.95
<i>Extraversion</i>			
AAD	-	-	-
MJAD	0.43 <sup>ns</sup>	10.18	88.53
ND	4.71	22.61	68.68
<i>Agreeableness</i>			
AAD	7.28	4.08	88.65
MJAD	4.39	7.11	88.49
ND	21.14	11.74	67.11
<i>Conscientiousness</i>			
AAD	11.66	3.28	85.06
MJAD	4.75	6.69	88.55
ND	14.80	17.92	67.29
<b>Individual-specific environmental factors</b>			
	Personality	BPF	Specific
<i>Neuroticism</i>	%	%	%
AAD	0.67 <sup>ns</sup>	3.40	95.93
MJAD	8.44	2.98	89.42
ND	6.25	2.33	91.41
<i>Extraversion</i>			
AAD	-	-	-
MJAD	1.70	9.25	89.04
ND	0.43 <sup>ns</sup>	7.60	91.96
<i>Agreeableness</i>			
AAD	0.12 <sup>ns</sup>	3.74	96.15
MJAD	0.22 <sup>ns</sup>	11.11	88.64
ND	0.51 <sup>ns</sup>	11.80	87.69
<i>Conscientiousness</i>			
AAD	0.36 <sup>ns</sup>	5.10	94.55
MJAD	3.05	9.17	87.78
ND	0.10 <sup>ns</sup>	8.74	91.16

Note: <sup>ns</sup>=not significant at  $p < 0.05$ ; all other estimates are significant at  $p < 0.05$ ; BPF = borderline personality features; AAD=Lifetime Alcohol Abuse or Dependence; MJAD = Lifetime Cannabis Abuse or Dependence; ND=Lifetime Nicotine Dependence; From Figure 1, total genetic variance in each substance use disorder measure is  $(c^2+e^2+f^2)$ ; %**Personality** is calculated as  $c^2/(c^2+e^2+f^2)$ ; %**BPF** as  $e^2/(c^2+e^2+f^2)$ ; and %**Specific** as  $f^2/(c^2+e^2+f^2)$ ; From Figure 1, total individual-specific environmental variance in each substance use disorder measure is  $(p^2+q^2+r^2)$ ; %**Personality** is calculated as  $p^2/(p^2+q^2+r^2)$ ; %**BPF** as  $q^2/(p^2+q^2+r^2)$ ; and %**Specific** as  $r^2/(p^2+q^2+r^2)$ ;

Table S2. Proportion of genetic covariance between borderline personality features and substance use disorder explained by five-factor model personality traits

	%Personality A	%Personality E
<i>Neuroticism</i>		
AAD	93.29	29.31
MJAD	43.95	60.86
ND	56.83	60.28
<i>Extraversion</i>		
AAD	-	-
MJAD	28.58	8.82
ND	20.29	5.07
<i>Agreeableness</i>		
AAD	53.02	7.01
MJAD	39.79	5.65
ND	52.83	9.67
<i>Conscientiousness</i>		
AAD	49.54	7.47
MJAD	29.84	13.31
ND	31.97	2.79

*Note:* AAD=Lifetime Alcohol Abuse or Dependence; MJAD = Lifetime Cannabis Abuse or Dependence; ND=Lifetime Nicotine Dependence; A=genetic covariance - from Figure 1, calculated as  $bc/(bc+de)$ ; E=individual-specific environmental covariance – from Figure 1, calculated as  $np/(np+q)$ ;