

**Table S1** The linear effect in valence

Metrics	Graded Valence Effect	Linear Trend Test
Weight	H > M > L	$F_{(1,3378)}=5.944$ , $p=0.015$
SAP	H > M > L	$F_{(1,3450)}=2.651$ , $p=0.104$
PKV	H > M > L	$F_{(1,3450)}=6.237$ , $p=0.013$
SAG	H > M > L	$F_{(1,3450)}=13.616$ , $p=0.000$
PUL	H < M < L	$F_{(1,3667)}=88.190$ , $p=0.000$
TCC_PUL	H < M < L	$F_{(1,14)}=66.022$ , $p=0.000$
TCC_PKV	H > L, H > M	$F_{(1,14)}=5.471$ , $p=0.035$

The linear valence effect was test by ANOVA and Turkey's post hoc test. H = high affective level; M = medium affective level; L = low affective level. TCC\_PUL = pupillary reflex curves; TCC\_PKV = time course curve of PKV.