**Supplementary materials**

**Higher emotion regulation flexibility predicts more stable negative emotions and faster affective recovery in early psychosis: An experience sampling study**

**Deviations from preregistration**

**Data analysis**

***Data preparation***

Instability of NA was operationalized as root mean square of successive differences (rMSSD).

***Data analysis***

Model convergence issues in multilevel models: Firstly, random effects of ER flexibility, mean ER effort, mean NA were all included, nonconvergence problems were reported. Then, we re-ran the analysis using different optimizers available in the R package *optimx*. Because the nonconvergence problems were not solved, we set the random effects of mean ER effort and Mean NA as fixed, and retained the random effect of ER flexibility, which were the primary independent variable of interest. The convergence issues were solved.

Affective recovery: in our preregistration, we specified the following model to estimate the recovery time (at within-person level):

fit.survreg = survreg(Surv(t0, time2, type="interval2") ~ sex + age + ERsdDay + ERmDay + again + cluster(id), dist="weibull", data=dat2)

However, because ER flexibility (ERsdDay) and mean ER effort (ERmDay) had been included in the model, the between-person level median survival time estimation was biased. To solve this problem, we estimated the recovery time (at within-person level) with the following model:

fit.survreg = survreg(Surv(t0, time2, type="interval2") ~ sex + age + again + cluster(id), dist="weibull", data=dat2)

then, a multilevel model was conducted with daily ER flexibility (ERsdDay) and daily mean ER effort (ERmDay) as predictors of NA recovery during the day (NArecoveryDay) at the within-person level:

NArecoveryDay ~ ERsdDay + ERmDay + (ERsdDay |id), dat2, control = ctrl

*Note. The mean level of NA was not included in the multilevel model because it had been used to define recovery. For more details see De Calheiros Velozo et al. (2022).*

 A linear regression model was then conducted to examine their between-person associations:

NArecovery ~ ERsd + ERm, data = dat2\_lm

**Method**

**Statistical analyses**

***Affective recovery*** The baseline level of NA was operationalized as mean NA throughout the entire ESM period of each participant (NAm) (De Calheiros Velozo et al., 2022; Kuranova et al., 2020), and thus daily NA recovery was modeled as the median survival time of NA took to be equal or lower than NAm. We were interested in changes in NA in the context of stressor, when emotions more likely need regulation, so we selected the first stressful event of a day (time 1), to prevent confounding effects of incomplete recovery from previous stressors. Any following stressors on the same day was used to compute the cumulative stress. For the purpose of this study, we dichotomized the responses (0 = no following stressor happened; 1 = 1 or more additional stressful events happened). Then, the intervals between time 1 and the moment (time 2) that NA had recovered to baseline (i.e., the levels of NA at time 2 were equal or lower than NAm) was estimated, with cumulative stress, age and sex as covariates.

**References:**

De Calheiros Velozo, J., Lafit, G., Viechtbauer, W., van Amelsvoort, T., Schruers, K., Marcelis, M., . . . Vaessen, T. (2023). Delayed affective recovery to daily-life stressors signals a risk for depression. *Journal of Affective Disorders*, *320*, 499-506. doi: 10.1016/j.jad.2022.09.136

Kuranova, A., Booij, S. H., Menne-Lothmann, C., Decoster, J., van Winkel, R., Delespaul, P., . . . Wichers, M. (2020). Measuring resilience prospectively as the speed of affect recovery in daily life: a complex systems perspective on mental health. *BMC Medicine*, *18*(1), 36. doi:10.1186/s12916-020-1500-9