

Affect and SM Use - SMASH Study

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Descriptive Statistics

```
## Days in Study

# summarize max days in study
Max_days <- data %>%
  group_by(pid) %>%
  summarise(Max_day = max(day_in_study, na.rm=TRUE))

# get mean/sd day in study
mean(Max_days$Max_day, na.rm=TRUE)
```

```
## [1] 30.57895
```

```
sd(Max_days$Max_day, na.rm=TRUE)
```

```
## [1] 5.620555
```

Models Predicting Evening Negative Mood

```
## Negative mood - sumduration
NA_sm_sum_bayes <- brm(NAf_pm_p ~ sum_sm_p + NAf_am_p + sum_sm_p_c + day_in_study + (1 | pid), prior = prior1, data = day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 0.000148 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 1.48 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.503 seconds (Warm-up)
## Chain 1:                0.264 seconds (Sampling)
## Chain 1:                0.767 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 2.2e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.22 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.539 seconds (Warm-up)
## Chain 2:           0.263 seconds (Sampling)
## Chain 2:           0.802 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 1.9e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.19 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  20 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  40 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  60 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  80 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 100 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.536 seconds (Warm-up)
## Chain 3:           0.226 seconds (Sampling)
## Chain 3:           0.762 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.3e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.23 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 0.518 seconds (Warm-up)
## Chain 4:                0.265 seconds (Sampling)
## Chain 4:                0.783 seconds (Total)
## Chain 4:
```

```
model_parameters(NA_sm_sum_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	-1.634983883	0.95	-6.82482127	3.46452634	0.73925	0.4531579
b_sum_sm_p	conditional	0.025618122	0.95	-0.02742957	0.07707171	0.82775	1.0000000
b_NAf_am_p	conditional	0.117824207	0.95	0.01446423	0.22237890	0.98525	1.0000000
b_sum_sm_p_c	conditional	-0.008268871	0.95	-0.04926505	0.03435968	0.66000	1.0000000
b_day_in_study	conditional	0.108924310	0.95	-0.12721802	0.34596487	0.80300	1.0000000
sigma	sigma	17.986205241	0.95	16.60926925	19.48687843	1.00000	0.0000000

6 rows | 1-8 of 10 columns

standard_error(NA_sm_sum_bayes)

Parameter	SE
<chr>	<dbl>
b_Intercept	2.58447271
b_sum_sm_p	0.02681186
b_NAf_am_p	0.05341580
b_sum_sm_p_c	0.02103537
b_day_in_study	0.12279981
sigma	0.74376904
6 rows	

```
## Negative mood - counts

NA_sm_count_bayes <- brm(NAf_pm_p ~ count_sm_p + NAf_am_p + count_sm_p_c + day_in_study + (1 | pid), prior = prior1, data =
day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 3.8e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.38 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.775 seconds (Warm-up)
## Chain 1:                0.167 seconds (Sampling)
## Chain 1:                0.942 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 2.1e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.21 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.683 seconds (Warm-up)
## Chain 2:          0.139 seconds (Sampling)
## Chain 2:          0.822 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 1.8e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.18 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  20 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  40 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  60 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  80 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 100 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 1.159 seconds (Warm-up)
## Chain 3:          0.483 seconds (Sampling)
## Chain 3:          1.642 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```

## Chain 4: Gradient evaluation took 3.3e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.33 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 1.023 seconds (Warm-up)
## Chain 4:           0.38 seconds (Sampling)
## Chain 4:           1.403 seconds (Total)
## Chain 4:

```

```
model_parameters(NA_sm_count_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	-1.313103244	0.95	-6.706579188	3.94893065	0.68250	0.4642105
b_count_sm_p	conditional	0.029825070	0.95	-0.001960873	0.06098256	0.96800	1.0000000
b_NAf_am_p	conditional	0.117456573	0.95	0.011169244	0.22216863	0.98425	1.0000000
b_count_sm_p_c	conditional	-0.006647957	0.95	-0.030827919	0.01807392	0.70025	1.0000000
b_day_in_study	conditional	0.107976648	0.95	-0.134403115	0.34463673	0.81975	1.0000000
sigma	sigma	17.913613705	0.95	16.562027898	19.47047597	1.00000	0.0000000

6 rows | 1-8 of 10 columns

standard_error(NA_sm_count_bayes)

Parameter	SE
<chr>	<dbl>
b_Intercept	2.72539175
b_count_sm_p	0.01598548
b_NAf_am_p	0.05426765
b_count_sm_p_c	0.01245771
b_day_in_study	0.12058058
sigma	0.75023738
6 rows	

Positive Affect on SM predicting social media use

Positive affect & minutes of SM

```
PA_on_SM_day_bayes <- brm(sum_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 | pid), prior = prior1, data = day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 4.8e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.48 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.467 seconds (Warm-up)
## Chain 1:                0.231 seconds (Sampling)
## Chain 1:                0.698 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 2.5e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.25 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.555 seconds (Warm-up)
## Chain 2:          0.384 seconds (Sampling)
## Chain 2:          0.939 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 2.6e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.26 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  20 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  40 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  60 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  80 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 100 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.526 seconds (Warm-up)
## Chain 3:          0.345 seconds (Sampling)
## Chain 3:          0.871 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 3.1e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.31 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 0.513 seconds (Warm-up)
## Chain 4:                0.302 seconds (Sampling)
## Chain 4:                0.815 seconds (Total)
## Chain 4:
```

```
model_parameters(PA_on_SM_day_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	10.47299780	0.95	-0.53178997	21.66654503	0.96775	0.09973684
b_SM_Pos_p	conditional	0.22555244	0.95	0.01592987	0.43581067	0.98275	1.00000000
b_SM_Pos_p_c	conditional	-0.08726108	0.95	-0.24651027	0.06516792	0.87250	1.00000000
b_day_in_study	conditional	-0.27024007	0.95	-0.67384059	0.14350117	0.90225	1.00000000
sigma	sigma	37.07838996	0.95	34.61238860	39.80492789	1.00000	0.00000000

5 rows | 1-8 of 10 columns

```
standard_error(PA_on_SM_day_bayes)
```

Parameter <chr>	SE <dbl>
b_Intercept	5.6601215
b_SM_Pos_p	0.1062421
b_SM_Pos_p_c	0.0780634
b_day_in_study	0.2072258
sigma	1.3286873
5 rows	

```
## Positive affect & SM checks
```

```
PA_on_SM_count_day_bayes <- brm(count_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 | pid), prior = prior1, data = day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 4.1e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.41 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.494 seconds (Warm-up)
## Chain 1:                0.187 seconds (Sampling)
## Chain 1:                0.681 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 2.6e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.26 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.584 seconds (Warm-up)
## Chain 2:          0.24 seconds (Sampling)
## Chain 2:          0.824 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 3.6e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.36 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  20 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  40 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  60 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  80 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 100 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.508 seconds (Warm-up)
## Chain 3:          0.374 seconds (Sampling)
## Chain 3:          0.882 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.5e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.25 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 0.521 seconds (Warm-up)
## Chain 4:           0.354 seconds (Sampling)
## Chain 4:           0.875 seconds (Total)
## Chain 4:
```

```
model_parameters(PA_on_SM_count_day_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	4.54957999	0.95	-14.7283223	23.0049109	0.68275	0.4918421
b_SM_Pos_p	conditional	0.68019455	0.95	0.3096230	1.0462455	1.00000	1.0000000
b_SM_Pos_p_c	conditional	-0.06717881	0.95	-0.3208620	0.1878964	0.69525	1.0000000
b_day_in_study	conditional	0.06046748	0.95	-0.6614078	0.7565898	0.55900	1.0000000
sigma	sigma	65.91424942	0.95	61.5827751	70.5193201	1.00000	0.0000000

5 rows | 1-8 of 10 columns


```
standard_error(PA_on_SM_count_day_bayes)
```

Parameter	SE
<chr>	<dbl>
b_Intercept	9.5963646
b_SM_Pos_p	0.1841110
b_SM_Pos_p_c	0.1318513
b_day_in_study	0.3604825
sigma	2.2846290
5 rows	

Negative Affect on SM predicting social media use

```
## Negative affect & minutes of SM
```

```
NA_on_SM_day_bayes <- brm(sum_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 | pid), prior = prior1, data = day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 3.9e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.39 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.387 seconds (Warm-up)
## Chain 1:                0.285 seconds (Sampling)
## Chain 1:                0.672 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 3.8e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.38 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.408 seconds (Warm-up)
## Chain 2:          0.283 seconds (Sampling)
## Chain 2:          0.691 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 2.1e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.21 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  200 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  400 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  600 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  800 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 1000 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.395 seconds (Warm-up)
## Chain 3:          0.291 seconds (Sampling)
## Chain 3:          0.686 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.2 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 0.424 seconds (Warm-up)
## Chain 4:           0.297 seconds (Sampling)
## Chain 4:           0.721 seconds (Total)
## Chain 4:
```

```
model_parameters(NA_on_SM_day_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	13.59640658	0.95	4.034064937	23.7493145	0.99750	0
b_SM_Neg_p	conditional	0.29051298	0.95	0.005824447	0.5812182	0.97675	1
b_SM_Neg_p_c	conditional	-0.01332383	0.95	-0.390223391	0.3517914	0.52700	1
b_day_in_study	conditional	-0.58318840	0.95	-1.064701381	-0.1070514	0.99075	1
sigma	sigma	38.69553425	0.95	35.741283945	42.0440388	1.00000	0

5 rows | 1-8 of 10 columns

```
standard_error(NA_on_SM_day_bayes)
```

Parameter	SE
<chr>	<dbl>
b_Intercept	5.1075771
b_SM_Neg_p	0.1450079
b_SM_Neg_p_c	0.1907885
b_day_in_study	0.2449025
sigma	1.5784242
5 rows	

```
## Negative affect & SM checks
```

```
NA_on_SM_count_day_bayes <- brm(count_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 | pid), prior = prior1, data = day)
```

```
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 4.7e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.47 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 1: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 1: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 1: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 1: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 1: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 1: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 1: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.416 seconds (Warm-up)
## Chain 1:                0.249 seconds (Sampling)
## Chain 1:                0.665 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 2.7e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.27 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 2: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 2: Iteration:  1000 / 2000 [ 50%] (Warmup)
```

```
## Chain 2: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 2: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 2: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 2: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 2: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 2: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.471 seconds (Warm-up)
## Chain 2:          0.254 seconds (Sampling)
## Chain 2:          0.725 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 1.9e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.19 seconds.
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:   1 / 2000 [  0%] (Warmup)
## Chain 3: Iteration:  20 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:  40 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:  60 / 2000 [ 30%] (Warmup)
## Chain 3: Iteration:  80 / 2000 [ 40%] (Warmup)
## Chain 3: Iteration: 100 / 2000 [ 50%] (Warmup)
## Chain 3: Iteration: 1001 / 2000 [ 50%] (Sampling)
## Chain 3: Iteration: 1200 / 2000 [ 60%] (Sampling)
## Chain 3: Iteration: 1400 / 2000 [ 70%] (Sampling)
## Chain 3: Iteration: 1600 / 2000 [ 80%] (Sampling)
## Chain 3: Iteration: 1800 / 2000 [ 90%] (Sampling)
## Chain 3: Iteration: 2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.429 seconds (Warm-up)
## Chain 3:          0.251 seconds (Sampling)
## Chain 3:          0.68 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 6.7e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.67 seconds.
## Chain 4: Adjust your expectations accordingly!
## Chain 4:
## Chain 4:
## Chain 4: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 4: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 4: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 4: Iteration:   600 / 2000 [ 30%] (Warmup)
## Chain 4: Iteration:   800 / 2000 [ 40%] (Warmup)
## Chain 4: Iteration:  1000 / 2000 [ 50%] (Warmup)
## Chain 4: Iteration:  1001 / 2000 [ 50%] (Sampling)
## Chain 4: Iteration:  1200 / 2000 [ 60%] (Sampling)
## Chain 4: Iteration:  1400 / 2000 [ 70%] (Sampling)
## Chain 4: Iteration:  1600 / 2000 [ 80%] (Sampling)
## Chain 4: Iteration:  1800 / 2000 [ 90%] (Sampling)
## Chain 4: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 4:
## Chain 4: Elapsed Time: 0.399 seconds (Warm-up)
## Chain 4:           0.321 seconds (Sampling)
## Chain 4:           0.72 seconds (Total)
## Chain 4:
```

```
model_parameters(NA_on_SM_count_day_bayes, centrality = "mean")
```

Parameter <chr>	Component <chr>	Mean <dbl>	CI <dbl>	CI_low <dbl>	CI_high <dbl>	pd <dbl>	ROPE_Percentage <dbl>
b_Intercept	conditional	9.8419122	0.95	-7.35982963	26.7288313	0.87950	0.3447368
b_SM_Neg_p	conditional	0.5579183	0.95	0.07663445	1.0496675	0.98725	1.0000000
b_SM_Neg_p_c	conditional	0.1834687	0.95	-0.45132377	0.8253018	0.71525	1.0000000
b_day_in_study	conditional	-0.5688134	0.95	-1.42628790	0.2720306	0.90775	1.0000000
sigma	sigma	66.6459040	0.95	61.70979798	72.3095315	1.00000	0.0000000

5 rows | 1-8 of 10 columns


```
standard_error(NA_on_SM_count_day_bayes)
```

Parameter	SE
<chr>	<dbl>
b_Intercept	8.6086321
b_SM_Neg_p	0.2493678
b_SM_Neg_p_c	0.3242815
b_day_in_study	0.4330930
sigma	2.7163604
5 rows	