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 Prediciting Evening Negative Mood

```
################test difference between random intercept + slope vs. both#############################

model1 <- lmer(NAf_pm_p ~ sum_sm_p + NAf_am_p + sum_sm_p_c + day_in_study + (1 | pid), data = day)
model2 <- lmer(NAf_pm_p ~ sum_sm_p + NAf_am_p + sum_sm_p_c + day_in_study + (1 + sum_sm_p | pid), data = day)

anova(model1, model2)
```

	npar	AIC	BIC	logLik	deviance	Chisq	Df	Pr(>Chisq)
	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
model1	7	2507.179	2532.869	-1246.59	2493.179	*NA*	*NA*	*NA*
model2	9	2511.179	2544.208	-1246.59	2493.179	0	2	1

2 rows

```
model3 <- lmer(NAf_pm_p ~ count_sm_p + NAf_am_p + count_sm_p_c + day_in_study + (1 | pid), data = day)
model4 <- lmer(NAf_pm_p ~ count_sm_p + NAf_am_p + count_sm_p_c + day_in_study + (1 + count_sm_p | pid), data = day)

anova(model3, model4)
```

	npar	AIC	BIC	logLik	deviance	Chisq	Df	Pr(>Chisq)
	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
model3	7	2504.443	2530.132	-1245.222	2490.443	*NA*	*NA*	*NA*
model4	9	2508.443	2541.472	-1245.222	2490.443	0	2	1

2 rows

```
## write function to extract standardized coefficients
stdCoef.merMod <- function(object) {
  sdy <- sd(getME(object,"y"))
  sdx <- apply(getME(object,"X"), 2, sd)
  sc <- fixef(object)*sdx/sdy
  se.fixef <- coef(summary(object))[,"Std. Error"]
  se <- se.fixef*sdx/sdy
  return(data.frame(stdcoef=sc, stdse=se))
}


stdCoef.merMod(model1)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.00000000	0.00000000
sum_sm_p	0.05885091	0.05935906
NAf_am_p	0.13166497	0.05998748
sum_sm_p_c	-0.02377236	0.05917392
day_in_study	0.05419488	0.06104161

5 rows

```
stdCoef.merMod(model3)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.00000000	0.00000000
count_sm_p	0.10982148	0.05857860
NAf_am_p	0.13207473	0.05967393
count_sm_p_c	-0.03196300	0.05838673
day_in_study	0.05196285	0.05987902

5 rows

```
####################models#######################################

## 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 6.2e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.62 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: 0.566 seconds (Warm-up)
## Chain 1:                0.245 seconds (Sampling)
## Chain 1:                0.811 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: 0.535 seconds (Warm-up)
## Chain 2:                0.259 seconds (Sampling)
## Chain 2:                0.794 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 2e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.2 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: 0.575 seconds (Warm-up)
## Chain 3:                0.222 seconds (Sampling)
## Chain 3:                0.797 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.7e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.27 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: 0.573 seconds (Warm-up)
## Chain 4:                0.258 seconds (Sampling)
## Chain 4:                0.831 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 <chr>	SE <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 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: 1.261 seconds (Warm-up)
## Chain 1:                0.215 seconds (Sampling)
## Chain 1:                1.476 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 4e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.4 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: 1.132 seconds (Warm-up)
## Chain 2:                0.237 seconds (Sampling)
## Chain 2:                1.369 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 3.1e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.31 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: 1.109 seconds (Warm-up)
## Chain 3:                0.402 seconds (Sampling)
## Chain 3:                1.511 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.8e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.28 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: 1.06 seconds (Warm-up)
## Chain 4:                0.426 seconds (Sampling)
## Chain 4:                1.486 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 <chr>	SE <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

```
################test difference between random intercept + slope vs. both#############################

model1 <- lmer(sum_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 | pid), data = day)
model2 <- lmer(sum_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 + SM_Pos_p | pid), data = day)

anova(model1, model2)
```

	npar <dbl>	AIC <dbl>	BIC <dbl>	logLik <dbl>	deviance <dbl>	Chisq <dbl>	Df <dbl>	Pr(>Chisq) <dbl>
model1	6	4163.625	4187.766	-2075.813	4151.625	*NA*	*NA*	*NA*
model2	8	4167.625	4199.813	-2075.813	4151.625	1.009539e-10	2	1

2 rows

```
model3 <- lmer(count_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 | pid), data = day)
model4 <- lmer(count_sm_p ~ SM_Pos_p + SM_Pos_p_c + day_in_study + (1 + SM_Pos_p | pid), data = day)

anova(model3, model4)
```

	npar <dbl>	AIC <dbl>	BIC <dbl>	logLik <dbl>	deviance <dbl>	Chisq <dbl>	Df <dbl>	Pr(>Chisq) <dbl>
model3	6	4638.087	4662.227	-2313.043	4626.087	*NA*	*NA*	*NA*
model4	8	4642.057	4674.244	-2313.028	4626.057	0.02984951	2	0.9851861

2 rows

```
########## standardized coefficients

stdCoef.merMod(model1)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.00000000	0.00000000
SM_Pos_p	0.11026107	0.05044537
SM_Pos_p_c	-0.05916009	0.04889676
day_in_study	-0.06489070	0.05047071

4 rows

```
stdCoef.merMod(model3)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.000000000	0.00000000
SM_Pos_p	0.185211217	0.05016073

	stdcoef <dbl>	stdse <dbl>
SM_Pos_p_c	-0.025111010	0.04862086
day_in_study	0.009557924	0.05018593

4 rows

```
##########################models ############################################################

## 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 0.000259 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 2.59 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: 0.524 seconds (Warm-up)
## Chain 1:                0.268 seconds (Sampling)
## Chain 1:                0.792 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 8e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.8 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: 0.576 seconds (Warm-up)
## Chain 2:                0.392 seconds (Sampling)
## Chain 2:                0.968 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 3.9e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.39 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: 0.585 seconds (Warm-up)
## Chain 3:                0.339 seconds (Sampling)
## Chain 3:                0.924 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.4e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.24 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: 0.553 seconds (Warm-up)
## Chain 4:                0.329 seconds (Sampling)
## Chain 4:                0.882 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 4.4e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.44 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: 0.545 seconds (Warm-up)
## Chain 1:                0.194 seconds (Sampling)
## Chain 1:                0.739 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: 0.592 seconds (Warm-up)
## Chain 2:                0.244 seconds (Sampling)
## Chain 2:                0.836 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 4e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.4 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: 0.565 seconds (Warm-up)
## Chain 3:                0.368 seconds (Sampling)
## Chain 3:                0.933 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.8e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.28 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: 0.604 seconds (Warm-up)
## Chain 4:                0.337 seconds (Sampling)
## Chain 4:                0.941 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 <chr>	SE <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

```
#################test difference between random intercept + slope vs. both##############################

model1 <- lmer(sum_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 | pid), data = day)
model2 <- lmer(sum_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 + SM_Neg_p | pid), data = day)

anova(model1, model2)
```

	npar <dbl>	AIC <dbl>	BIC <dbl>	logLik <dbl>	deviance <dbl>	Chisq <dbl>	Df <dbl>	Pr(>Chisq) <dbl>
model1	6	3031.702	3053.884	-1509.851	3019.702	*NA*	*NA*	*NA*
model2	8	3032.223	3061.799	-1508.111	3016.223	3.479141	2	0.1755958

2 rows

```
model3 <- lmer(count_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 | pid), data = day)
model4 <- lmer(count_sm_p ~ SM_Neg_p + SM_Neg_p_c + day_in_study + (1 + SM_Neg_p | pid), data = day)

anova(model3, model4)
```

	npar <dbl>	AIC <dbl>	BIC <dbl>	logLik <dbl>	deviance <dbl>	Chisq <dbl>	Df <dbl>	Pr(>Chisq) <dbl>
model3	6	3355.542	3377.724	-1671.771	3343.542	*NA*	*NA*	*NA*
model4	8	3359.542	3389.119	-1671.771	3343.542	0	2	1

2 rows

```
########## standardized coefficients

stdCoef.merMod(model1)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.000000000	0.00000000
SM_Neg_p	0.114214040	0.05791764
SM_Neg_p_c	-0.006189071	0.05806998
day_in_study	-0.133886755	0.05871062

4 rows

```
stdCoef.merMod(model3)
```

	stdcoef <dbl>	stdse <dbl>
(Intercept)	0.00000000	0.00000000
SM_Neg_p	0.12863116	0.05822643

	stdcoef <dbl>	stdse <dbl>
SM_Neg_p_c	0.03491400	0.05837959
day_in_study	-0.07557738	0.05902364

4 rows

```
######################################################################


## 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 4.9e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.49 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: 0.698 seconds (Warm-up)
## Chain 1:                0.443 seconds (Sampling)
## Chain 1:                1.141 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: 0.635 seconds (Warm-up)
## Chain 2:                0.447 seconds (Sampling)
## Chain 2:                1.082 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 2.9e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.29 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: 0.68 seconds (Warm-up)
## Chain 3:                0.444 seconds (Sampling)
## Chain 3:                1.124 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.7e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.27 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: 0.65 seconds (Warm-up)
## Chain 4:                0.441 seconds (Sampling)
## Chain 4:                1.091 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 <chr>	SE <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 4.1e-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: 0.385 seconds (Warm-up)
## Chain 1:                0.197 seconds (Sampling)
## Chain 1:                0.582 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: 0.434 seconds (Warm-up)
## Chain 2:                0.246 seconds (Sampling)
## Chain 2:                0.68 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 2.2e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.22 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: 0.393 seconds (Warm-up)
## Chain 3:                0.254 seconds (Sampling)
## Chain 3:                0.647 seconds (Total)
## Chain 3:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 4).
## Chain 4:
```

```
## Chain 4: Gradient evaluation took 2.1e-05 seconds
## Chain 4: 1000 transitions using 10 leapfrog steps per transition would take 0.21 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: 0.379 seconds (Warm-up)
## Chain 4:                0.28 seconds (Sampling)
## Chain 4:                0.659 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 <chr>	SE <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