

# EMA Variable List 1-31-23

## Notes:

- variable is indented if part of a skip pattern
- all variables preceded by an Z so we know they are EMA variables
- yes =1, no =0

## Time control variables

Spring 0=Fall, 1=spring  
Weekend 0=weekday, 1 = weekend  
Emaday 1-4 (day 1, 2, 3, 4)

Repeated measures for time ema num063 (0 [first ema] to 63)

## Format for the variable list below

Variable Name	Description	Response Scale
xrespid	Respondent ID	
xStartdate	Unix timestamp	

z1prcntcomplt Progress – how far they got into the survey

## **Interaction characteristics**

zdoing what were you doing  
*open-ended response that we are currently coding*

zint interaction since the last prompt Y/N 74% Fall  
72% Spring  
3048 yes, 1044 no, 9 missing/incomplete  
2664 yes, 1028 no, 5 missing

zintlong how long did it last 3.08 min fall  
3.06 spring  
1 = < 5, 2 = 5-15, 3 = 16-30, 4 = 31-60, 5 = 61-90, 6 = 90+

zinthow how did it take place  
78% inperson, 13% text/social media, 4% phone, 5% video chat/facetime, .5% oth FALL  
77% inperson, 13% text/social media, 5% phone, 5% video chat/facetime, .6% oth SPRING

zintnum besides self, how many people involved?

zfrsupp	zintaccept	how much did this person accept you (zint = 1)	0-10	8.49 fall, 8.57 spr
	OR zintfit	how much you feel like you fit in (zint > 1)	0-10	8.46 fall, 8.16 spr
	zintenjoy	how enjoyable	0-10	7.50 fall, 7.34 spr
	zinttrueslf	how much feel like true self	0-10	8.05 fall, 7.82 spr
	zintunderstd	understood during interaction	0-10	7.60 fall, 7.50 spr

Fall VCA: .76 (.79 with enjoy)

Spring VCA: .75 (.79 with enjoy)

<b>zfrconfl</b>	<b>zintstress</b>	stressful was the interaction	0-10	M = 1.22 SD = 1.93 fall M = 1.28 SD = 2.00 spring
	<b>zintannoy</b>	annoying	0-10	M = 1.12 SD = 1.84 fall M = 1.13 SD = 1.96 spring
	<b>zintprob</b>	any kind of problem or disagreement	1-5	M = 1.21 SD = .59 M = 1.22 SD = .63 spring

Fall VCA: .62

Spring VCA: .65

*The one of the four that has the most variability in fall is zintstress*

<b>zintsd</b>	did you discuss anything personal	0-10	1.47 fall 1.25 spring
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**intsdwho** who?

1=mine (28%), 2=other person (12%), 3 = both (52%), 4 = someone else (8%) fall

1=mine (29%), 2=other person (12%), 3 = both (48%), 4 = someone else (11%) spring

\*asked if zintsd >2

<b>zintago</b>	how long ago	
	<i>1 = &lt; 15, 2 = 16-30, 3 = 31-60, 4 = 61-90, 5 = 90+</i>	

<b>zintnum</b>	how many people involved in interaction	
	<i>1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5+</i>	
	who was involved in the interaction? Click all that apply	

**zintfr1** friend1

**zintfr2** friend2

**zintfr3** friend3

**zintfr4** friend4

**zintfr5** friend5

**zintfam1** fam1

**zintfam2** fam2

**zintfam3** fam3

**zintfam4** fam4

**zintfam5** fam5

**zintother** other

*if more than 5 of each, go on in same fashion – zintfr6, zintfam6, etc.*

**personality/behavior** 0-10

<b>zicom</b>	I'm communal	8.29 fall, 8.10 spring
<b>zidom</b>	I'm dominant	.73 fall, .87 spring
<b>zucom</b>	person was communal	8.27 fall, 8.13 spring
<b>zudom</b>	person was dominant	.99 fall, 1.09 spring
<b>zfocself</b>	how much focus on self	4.16 fall, 3.95 spring
<b>zfocoth</b>	how much focus others	4.66 fall, 4.22 spring
<b>zuc1</b>	others needs before one's own	
<b>zuc2</b>	worry about others	

**mood** 0-10

*note that these are the first set of questions*

zanxiety	anxiety (nervous, tense, anxious)	Fall VCA: .78	Spring VCA: .74
zhappiness	happiness (happy, pleased, cheerful)	Fall VCA: .74	Spring VCA: .77
zdepr	depression (sad, unhappy, depressed)	Fall VCA: .78	Spring VCA: .77
zatease	calm (relaxed, calm, at ease)	Fall VCA: .77	Spring VCA: .79

zpa	calm happiness
zna	depr, anxiety

## diabetes self-care

zdmcare	take care of DM during interaction	Y/N	36% fall, 24% spr
	1955 no; 1080 yes; 1066 missing no interaction FALL		
	2016 no; 630 yes; 1051 missing SPRING		

zdmwell	overall self care
	1=poorly (2%), 2 = fair (15%), 3 = good (52%), 4 = nearly perfect (31%) fall
	1=poorly (1%), 2 = fair (16%), 3 = good (48%), 4 = nearly perfect (35%) spring

zeat	eat since last prompt	Y/N	44% fall, 39% spr
	2263 no, 1805 yes, 33 missing		
	2246 no, 1415 yes, 36 missing		

IF YES (of the 1805)

zeatfam		Y/N	63% fall, 57% spr
zeatfrnds		Y/N	26% fall, 23% spr
zeatoth		Y/N	
zeatnoone		Y/N	
zeatcheck	checks blood glucose before eating	Y/N	95% fall, 95% spr
zeatinsulin	takes insulin before eating		91% fall, 92% spr
zadjins	adjusts insulin based on bG or diet		82% fall, 82% spr
zeatdr	physician changed anything about meal		
	1=not at all (46%); 2 = a little bit (37%), 3 = some (13%), 4 = a lot (4%) fall		
	1=not at all (45%); 2 = a little bit (35%), 3 = some (16%), 4 = a lot (3%) spr		

IF NO (of the 2263)

zskipmeal	skip a meal	Y/N	5.7% fall, 6.2% spr
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zexer	exercise since last prompt	Y/N	12% fall, 9% spr
	3594 no, 473 yes, 34 missing		
	3327 no, 333 yes, 37 missing		

IF YES (of the 473)

zexermin	how long (minutes)		
z1exerfrnds	friends/classmates	Y/N	51% fall, 52% spr
z1exerfam	family	Y/N	
z1exeroth	other	Y/N	
z1exernoone	nobody	Y/N	
zexerchk	check BG before exercising	Y/N	68%

## diabetes problems

zdmprobhi	high BG	Y/N	26% fall; 23% spr
zdmproblo	low BG		10% fall; 8% spr
zdmprobequip	equipment problems		3% fall; 2% spr
zdmprobpeop	other people not understanding needs		1% fall; .4% spr
zdmproboth	other		.7% fall; .4% spr

## reasons didn't take care

zdmdiffforgot	I forgot	Y/N	4% fall; 2% spr
zdmdifffun	caught up in fun with others		5% fall; 3% spr
zdmdiffdistr	caught up in difficulties with others		1% fall; 1% spr
zdmdifftime	didn't have time		2% fall; 1% spr
zdmdifffeel	didn't feel like it		4% fall; 2% spr
zdmdiffuncomf	felt uncomfortable around others		1% fall; 0.3% spr
zdmdiffsupp	no supplies		1% fall; 1% spr
zdmdiffover	overwhelmed with DM		2% fall; 1% spr
zdmdiffunsure	unsure what to do		1% fall; 1% spr
zdmdiffother	other		2% fall; 2% spr
zdmnodiff	no problems		86% fall; 90% spr

## friends intersect with self-care

\*if took care of dm during interaction (36% of interactions in fall, 24% in spring)

zper	understood (zdmunderstd)	0-10	8.70 fall; 8.74 spr
	supported (zdmsup)	0-10	8.50 fall; 8.42 spr
	judged (R) (zdmjudge)	0-10	.30 fall; .34 spr
	rejected (R) (zdmrejec)	0-10	.26 fall; .26 spr
	FALL VCA: .63      Spring VCA: .64		

Zperpos	understood, supported
Zperneg	judged, rejected

zdmstd	diabetes self-disclosure	Y/N	7% fall, 6% spr
xdmstdwho	1 = self (43%), 2 = other (57%) fall 1 = self (30%), 2 = other (70%) spr		

zdmstd	held back about diabetes	0-10	.61 fall; .40 spr
	<i>this is for all interactions, regardless of whether there was discussion</i>		

keep these two SD variables as individual variables

## misc no interaction (all preceded by 'm' to denote miscellaneous)

zmoppinter	did you have the opportunity to interact with someone?	Y/N	
zmwhynoint	why didn't you interact with this person?	OE	
zmdesinter	if no, want to interact with someone	0-10	
zmpreintertime	how long ago (hours) was most recent interaction		

zmfitin	how much feel like fitting in with people	0-10
zmenjoytime	enjoyable time	0-10
zmtrueself	feel like true self	0-10
zmstress	how much stress	0-10
zmunder	feel understood by people	0-10
zmfeelcom	how communal do you feel	0-10
zmfeeldom	how dominant do you feel	0-10
zminterest	interested in what you were doing	0-10
zmchall	felt challenged by what you were doing	0-10
zmbored	felt bored by what you were doing	0-10
zmconfused	confused by what you were doing	0-10
zmfun	fun with what you were doing	0-10
zimpt	anything else important?	OE

### **CGM data (from Fiona) added to dataset**

Blood glucose (BG) outcomes were calculated across multiple time frames. Time frames are indicated in variable ending:

- \_1h = across the 1 hour prior to the EMA timepoint (So if the EMA was completed at 11:45 AM, this summarizes BG from 10:45 AM to 11:45 AM)
- \_2h = across the 2 hours prior to the EMA timepoint (note that EMAs are roughly every 2 hours)
- \_d = across the whole day (midnight to midnight)
- \_s = across the whole semester (fall/spring)

So each of the variables below has 4 versions, e.g., bg\_mean\_1h, bg\_mean\_2h, bg\_mean\_d, bg\_mean\_s.

bg\_mean = mean of BG

bg\_sd = standard deviation of BG

### **Times in Ranges:**

TIR\_prop = time in range as a proportion. I.e., what proportion of time did they stay in range (70 – 180)

TIR\_bin = time in range as binary. Did they meet the goal for time in range across the given period? 1 indicates they met or exceeded the goal. The goal is to be in range at least 70% of the time.

TAR\_prop = time above range as a proportion. What proportion of time were they above the target range (180 +)

TAR\_bin = time above range as binary. Did they meet the goal for time above range. 1 indicates they met the goal. The goal is to be above range less than 25% of the time.

TBR\_prop = time below range as prop. What proportion of time were they below the target range (70 -)

TBR\_bin = time below range as binary. Did they meet the goal for time below range across the given period. 1 indicates they met the goal. The goal is to below range less than 4% of the time (very dangerous).

\*Note that the TBR variables should not be used at this point. First, they have quite low variability. But also a number of participants were on the Basal IQ which automatically corrects for lows.

### **Additional time variables that may be helpful or confusing:**

day\_ema = day of the ema, where 0 = first day and 3 = fourth and final day.

day1, day2, day3 = binary dummy variables capturing same information as day\_ema

datetime\_ema = the time signature in which they submitted their EMA survey  
datetime\_round = datetime\_ema rounded to the nearest 5 minutes (used to merge the CGM data)  
date: YYYY-MM-DD  
time: H M S  
time\_h: continuous variable capturing hour of the day (0-24)  
tinterval: continuous variable capturing hour of ema period (0 – 96)  
emanum0: which number EMA, starting at 0  
cov\_yr: did data collection occur during pandemic? 1 = y, 0 = no  
spring: Which semester of data. 0 = fall, 1 = spring  
weekend: 1 = yes, 0 = no