

eSupplement

Situations matter for meat consumption

A diary study of the within- and between-person associations

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Meat consumption and situational factors	Completers (N = 230)	Non-completers (N = 251)	Logistic regression DV = Completion of diary study	
	M (SD)/N (%)	M (SD)/N (%)	OR	95% CI
Age	42.70 (17.25%)	38.04 (16.68%)	1.00	0.98–1.01
Sex				
male	135 (58.7%)	133 (52.99)	reference	
female	95 (41.30%)	118 (47.01)	1.34	0.90–1.99
Employment status				
full-time	102 (44.35%)	125 (49.80)	reference	
part-time	36 (15.65%)	28 (11.16)	1.99*	1.09–3.68
in education	24 (10.43%)	50 (19.92)	0.67	0.35–1.24
non-working	67 (29.13%)	47 (18.73)	2.05*	1.15–3.71
missing	1 (0.43%)	1 (0.40)	1.32	0.05–37.06
Adults in the household				
no adults	37 (16.09%)	49 (19.52%)	reference	
other adults	177 (76.96%)	184 (73.31%)	1.51	0.89–2.58
missing	16 (6.96%)	18 (7.17%)	2.09	0.81–5.43
Children in the household				
no children	147 (63.91%)	131 (52.19%)	reference	
children	47 (20.43%)	68 (27.09%)	0.57*	0.35–0.94
missing	36 (15.65%)	52 (20.72%)	0.56	0.31–1.00
Monthly household net-income				
< 450 €	5 (2.17%)	6 (2.39%)	0.91	0.23–3.45
450–< 1,500 €	42 (18.26%)	54 (21.51%)	0.82	0.46–1.44
1,500–< 2,500 €	64 (27.83%)	68 (27.09%)	reference	
2,500–< 4,000 €	71 (30.87%)	75 (29.88%)	1.13	0.69–1.86
≥ 4,000 €	44 (19.13%)	41 (16.33%)	1.42	0.79–2.58
missing	4 (1.74%)	7 (2.79%)	0.76	0.18–2.84

Tab. e1: Sociodemographic characteristics of completers and non-completers plus attrition analysis

95% CI: 95% Confidence Interval; M: mean; OR: Odds Ratio; SD: Standard Deviation

To compare the participants who had completed the diary study with those who had not, a logistic regression was performed. Completion of all five days of the study was the dependent variable (DV). The sociodemographic variables served as independent variables. The odds ratios (OR) and 95% confidence intervals (95% CI) are reported. * indicates $p < 0.05$

Participants who worked part-time or did not work were more likely to complete the study than those who worked full-time. Also, participants who lived in households without children were more likely to complete the study than those with children.

Meat consumption and situational factors	Completers (N = 230)	Non-completers (N = 251)	Logistic regression DV = Completion of diary study	
	M (SD)	M (SD)	OR	95% CI
Meat consumption	0.44 (0.39)	0.55 (0.41)	0.47*	0.29–0.77
Hunger	5.93 (1.76)	5.66 (1.96)	1.09	0.98–1.21
Positive affect	4.23 (1.05)	4.20 (1.10)	1.02	0.84–1.24
Negative affect	1.96 (1.19)	1.96 (1.23)	0.99	0.83–1.18
Location	0.12 (0.25)	0.14 (0.29)	0.73	0.35–1.53
Social	0.56 (0.44)	0.51 (0.44)	1.44	0.91–2.28
Activity	0.48 (0.44)	0.46 (0.44)	1.20	0.76–1.89

Tab. e2: Meat consumption and situational factors on the first day for completers and non-completers plus attrition analysis

95% CI: 95% Confidence Interval; M: mean; OR: Odds Ratio; SD: Standard Deviation

We compared the level of meat consumption and the situational factors on the first day of the diary study between those participants who had completed the diary study with those who had not. Logistic regression was performed for this purpose. Completion of all five days of the study was the dependent variable (DV). Meat consumption and the situational factors served as independent variables and were calculated as the average across all meals on the first day of the diary study. The odds ratios (OR) and 95% confidence intervals (95% CI) are reported. * indicates $p < 0.05$

Participants who reported a lower frequency of meat consumption were more likely to complete all five days of the diary study than those who reported a higher frequency of meat consumption.

Sociodemographic characteristics	Mean/N	SD/%
Age	42.7	17.22
Gender		
male	135	58.70%
female	95	41.30%
Employment status		
full-time	102	44.35%
part-time	36	15.65%
in education	24	10.43%
non-working	67	29.13%
missing	1	0.43%
Monthly household net-income		
< 450 €	5	2.17%
450– < 1,500 €	42	18.26%
1,500– < 2,500 €	64	27.83%
2,500– < 4,000 €	71	30.87%
≥ 4,000 €	44	19.13%
missing	4	1.74%
Adults in the household		
no adults	37	16.09%
other adults	177	76.96%
missing	16	6.96%
Children in the household		
no children	147	63.91%
children	47	20.43%
missing	36	15.65%

Tab. e3: Sociodemographic characteristics of the sample

N_{ID} : number of participants; SD: Standard Deviation

Sample ($N_{ID} = 230$) consists of respondents who filled in all five diary days.



	Model ($N_{\text{Meals}} = 1,128$, $N_{\text{ID}} = 168$)	
Situational factors	OR	95% CI
Hunger	1.00	0.90–1.11
Positive affect	0.95	0.80–1.14
Negative affect	0.91	0.76–1.10
Location	reference = home	
other	1.06	0.61–1.85
Other(s) eating meat	reference = no	
yes	65.24***	38.28–111.18
partly	8.97***	5.29–15.20
unsure	14.31***	4.09–50.09
Activity	reference = without activity	
with activity	1.04	0.69–1.57
Time	reference = morning	
noon	1.56	0.96–2.53
evening	1.94**	1.21–3.11
Random effects		
ICC	0.23	
person-level variance	1.01	

Tab. e4: **Supplementary analysis: Two-level logistic model with the feature whether other(s) ate meat in the situation**

95% CI: 95% Confidence Interval; ICC: Intraclass Correlation Coefficient;

N_{Meals} : number of meals; N_{ID} : number of participants; OR: Odds Ratio

In this supplementary analysis, we aimed to explore the association between meat consumption and the eating behavior of other people present in the situation. To achieve this, we conducted a two-level logistic model on a subset of meals where participants ate with other people, hence the reduced number of meals and participants. Instead of the situational factors social setting (measuring whether other person[s] were present or not), we included the feature of whether the other person(s) ate meat. All situational factors were included uncentered. The results indicate that meat consumption was more likely when others ate meat compared to when others did not eat meat. This was true irrespective of whether all or some people present ate meat and even when the participants were unsure if others ate meat. *** $p < 0.001$, ** $p < 0.01$,

* $p < 0.05$

Type	Situational factor	Variable	Mean	SD	Min	Max
Continuous variable	Hunger	uncentered	6.11	2.00	0	10
	0 = not at all hungry	WP	0	1.50	-5.45	8.89
	10 = extremely hungry	BP	6.07	1.50	0	10
	Positive affect	uncentered	4.33	1.17	1	7
	1 = not at all	WP	0	0.74	-3.3	2.93
	7 = extremely	BP	4.32	0.92	1.24	6.4
	Negative affect	uncentered	1.81	1.19	1	7
	1 = not at all	WP	0	0.66	-3.67	5.53
7 = extremely	BP	1.83	1.01	1	5	
Binary variable	Location	uncentered	0.14	0.35	0	1
	0 = home	WP	0	0.28	-0.92	0.94
	1 = other	BP	0.13	0.21	0	1
	Social setting	uncentered	0.46	0.5	0	1
	0 = alone	WP	0	0.34	-0.93	0.93
	1 = with others	BP	0.44	0.37	0	1
	Activity	uncentered	0.5	0.5	0	1
	0 = without activity	WP	0	0.34	-0.92	0.93
1 = with activity	BP	0.51	0.38	0	1	
Categorical variable: dummy coded	Time: noon	uncentered	0.32	0.47	0	1
	0 = other	WP	0	0.44	-0.83	0.91
	1 = noon	BP	0.32	0.2	0	1
	Time: evening	uncentered	0.36	0.48	0	1
	0 = other	WP	0	0.46	-0.83	0.93
1 = evening	BP	0.36	0.18	0	1	

Tab. e5: Description of the situational factors depending on the different centering options

SD: Standard Deviation

We report on three types of variables for each situational factor: the uncentered variable, the variable resulting from between-person centering (between-person variation = BP) and the variable resulting from the within-person centering (within-person variation = WP).

The uncentered variable is reported on the scale on which it was measured. For example, negative affect was measured from 1 (not at all) to 7 (extremely).

The BP variable is an individual-level variable that reflects the average value across all meals per person. The minimum (min) and maximum (max) values of the BP indicate the lowest and highest average value of the situational factor across all participants, respectively. For example, the average negative affect across all meals per person varies between 1 (some individuals reported on average low negative affect) and 5 (some individuals reported on average high negative affect). The mean of the average negative affect ratings across all participants was 1.86 (SD = 1.01).

The WP variable is a meal-level variable that reflects the deviation of the situational factor for a given meal from the person's mean. As a result of the centering, the mean of all the WP values is always 0. The min and max values indicate the most negative and positive deviations of a situational variable for a given meal from the BP (average of the situational factor for a specific person) (e.g., 3.67 points below their average negative affect or 5.53 points above their average negative affect).

For binary and categorical variables, the uncentered cluster mean represents the proportion of the variable compared to the reference value. For more information on centering in multilevel models, see [41].



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