# Digital media use in association with sensory taste preferences in European children and adolescents- results from the I.Family study 

## Elida Sina ${ }^{1}$

${ }^{1}$ Leibniz Institute for Prevention Research and Epidemiology-BIPS, Bremen, Germany

## Online Supplementary Material

Figure S1. Participant flow chart from I.Family study included in current analyses.

17,600 participants (children, adolescents and parents) were included in the I.Family study


7,588 children and adolescents with complete information for all taste modalities


7,094 children and adolescents who met the inclusion criteria were included in the final analyses

Table S1. Duration of media use in European children and adolescents, by sex and age group ${ }^{1}$


|  | Age group |  |  |  |  |  |  |  | All |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Children |  |  |  | Adolescents |  |  |  |  |  |
|  | Males |  | Females |  | Males |  | Females |  |  |  |
|  | n | \% | n | \% | n | \% | n | \% | N | \% |
| Not at all | 1222 | 17.2 | 1146 | 16.2 | 328 | 4.6 | 254 | 3.6 | 2950 | 41.6 |
| $\leq 1 \mathrm{~h} /$ day | 339 | 4.8 | 400 | 5.6 | 392 | 5.5 | 374 | 5.3 | 1505 | 21.2 |
| 1 to $2 \mathrm{~h} /$ day | 155 | 2.2 | 140 | 2.0 | 276 | 3.9 | 285 | 4.0 | 856 | 12.1 |
| 2 to $3 \mathrm{~h} /$ day | 47 | 0.7 | 50 | 0.7 | 178 | 2.5 | 231 | 3.3 | 506 | 7.1 |
| > $3 \mathrm{~h} /$ day | 30 | 0.4 | 46 | 0.6 | 228 | 3.2 | 401 | 5.7 | 705 | 9.9 |
| Missing | 233 | 3.3 | 204 | 2.9 | 74 | 1.0 | 61 | 0.9 | 572 | 8.1 |

## Association of media use with sweet taste preference, by sweets intake propensity

Table S2 and $\mathbf{S 3}$ show the results of the sensitivity analyses where we stratified by propensities to investigate whether the association of exposure to total media with sweet and fatty TP differs by the respective propensities. The fully adjusted model showed a positive trend in the association between exposure to different durations of DM and sweet TP (Table S2) in the high sweet propensity strata (e.g. DM exposure $\geq 3 \mathrm{~h} /$ day: $\mathrm{OR}=1.27$; 95\%CI=0.98-1.65). After stratification by sex and age (Table S4), we observed that exposure for $>2 \mathrm{~h} /$ day to DM was associated with sweet TP across all groups, besides male children. In the low sweet propensity strata, we did not observe an association between different durations of DM exposure and sweet TP (Table S2). However, after further stratification by age and sex (Table S4), the association attenuated and was positive both in adolescents males $(\mathrm{OR}=1.23,95 \% \mathrm{CI}=0.86-1.76)$ and adolescent females ( $\mathrm{OR}=1.29 ; 95 \% \mathrm{CI}=0.96-1.73$ ).

Table S2. Association of total digital media exposure with sweet taste preference in European children and adolescents, by sweet intake propensity ${ }^{1,2}$

|  | High sweet propensity <br> $(\mathbf{N}=\mathbf{3 4 5 4})$ |  | Low sweet propensity <br> $(\mathbf{N}=\mathbf{3 6 3 1})$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Raw model | Adjusted model | Raw model | Adjusted model |
| Total DM exposure <br> (Ref. $\leq 1$ h/day) | Odds ratios (OR) and 95\% Confidence limits (95\% CI) |  |  |  |
| $1-2 \mathrm{~h} /$ day |  |  |  |  |

[^0]
## Association of media use with fatty taste preference, by fat intake propensity

The stratified analyses for the fatty taste preference (Table S3), showed an association with prolonged DM exposure in the high fat propensity group (e.g. DM exposure for $\geq 3$ hours/day: $\mathrm{OR}=1.28,95 \% \mathrm{CI}=0.99-1.65$ ) After stratification by age and sex (Table S4), the association was positive both in adolescent males and females (respectively, $\mathrm{OR}=1.18,95 \% \mathrm{CI}=0.78-1.81$; $\mathrm{OR}=1.21 ; 95 \% \mathrm{CI}=0.85-1.72$ ). In the low propensity strata (Table S3), a positive association was observed between different durations of DM exposure and fatty TP (e.g. DM exposure for $\geq 3$ hours/day: $\mathrm{OR}=1.36$; $95 \% \mathrm{CI}=1.06-1.73$ ). After stratification, being exposed for $>2$ hours/day to DM was associated with fatty TP in adolescents (males: $\mathrm{OR}=1.19 ; 95 \% \mathrm{CI}=0.85-1.66$; females: $\mathrm{OR}=1.45 ; 95 \% \mathrm{CI}=1.09-1.92$ ), compared to DM exposure of $\leq 2$ hour/day.

Table S3. Association of total media exposure with fatty taste preference in European children and adolescents, by fat intake propensity ${ }^{1,2}$

|  | High fat propensity <br> $(\mathbf{N}=\mathbf{3 4 8 3})$ |  | Low fat propensity <br> $(\mathbf{N = 3 6 0 7})$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Raw model | Adjusted model | Raw model | Adjusted model |
| Total DM exposure <br> (Ref. $\leq 1 \mathrm{~h} /$ day $)$ | Odds ratios (OR) and 95\% Confidence limits (95\% CI) |  |  |  |
| $1-2 \mathrm{~h} /$ day | 1.20 | 1.20 | 1.05 | 1.14 |
|  | $(0.95-1.51)$ | $(0.95-1.52)$ | $(0.85-1.30)$ | $(0.91-1.43)$ |
| $2-3 \mathrm{~h} /$ day | 1.06 | 1.07 | 0.99 | 1.18 |
|  | $(0.84-1.35)$ | $(0.83-1.37)$ | $(0.79-1.24)$ | $(0.93-1.49)$ |
| $\geq 3 \mathrm{~h} /$ day | 1.26 | 1.28 | 1.00 | $\mathbf{1 . 3 6}$ |
|  | $(1.00-1.60)$ | $(0.99-1.65$ | $(0.80-1.24)$ | $\mathbf{( 1 . 0 6 - 1 . 7 3 )}$ |

[^1]Table S4. Association of total media exposure with sweet and fatty taste preference in European children and adolescents, by sex and age group ${ }^{1,2}$

|  | Adjusted Model |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males |  | Females |  |
|  | <12 Years | $\geq 12$ Years | <12 Years | $\geq 12$ Years |
|  | Odds ratio | (OR) and 95 | Confidence | mits (95\% CI) |
| Sweet taste preference |  | High swe | propensity |  |
|  | $\mathrm{N}=961$ | $\mathrm{N}=803$ | $\mathrm{N}=907$ | $\mathrm{N}=783$ |
| Total DM exposure (Ref. $\leq 2 \mathrm{~h} /$ day) > 2h/day | $\begin{gathered} 0.90 \\ (0.67-1.21) \\ \hline \end{gathered}$ | $\begin{gathered} 1.34 \\ (0.95-1.90) \\ \hline \end{gathered}$ | $\begin{gathered} 1.25 \\ (0.92-1.70) \\ \hline \end{gathered}$ | $\begin{gathered} 1.13 \\ (0.81-1.58) \\ \hline \end{gathered}$ |
|  | Low sweet propensity |  |  |  |
|  | $\begin{gathered} 0.91 \\ (0.69-1.20) \\ \hline \end{gathered}$ | $\begin{gathered} 1.23 \\ (0.86-1.76) \end{gathered}$ | $\begin{gathered} 0.92 \\ (0.70-1.21) \\ \hline \end{gathered}$ | $\begin{gathered} 1.29 \\ (0.96-1.73) \\ \hline \end{gathered}$ |
| Fatty taste preference | High fat propensity |  |  |  |
|  | $\mathbf{N}=1121$ | N=671 | N=1054 | $\mathrm{N}=637$ |
| Total DM exposure (Ref. $\leq 2 \mathrm{~h} /$ day) > 2h/day | $\begin{gathered} 0.87 \\ (0.66-1.16) \end{gathered}$ | $\begin{gathered} 1.18 \\ (0.78-1.81) \end{gathered}$ | $\begin{gathered} 1.05 \\ (0.79-1.39) \end{gathered}$ | $\begin{gathered} 1.21 \\ (0.85-1.71) \end{gathered}$ |
|  | $\mathrm{N}=903$ | $\begin{aligned} & \text { Low fat } \\ & \mathrm{N}=805 \end{aligned}$ | $\begin{gathered} \text { propensity } \\ \mathrm{N}=931 \end{gathered}$ | $\mathrm{N}=968$ |
|  | $\begin{gathered} 0.81 \\ (0.60-1.10) \end{gathered}$ | $\begin{gathered} 1.19 \\ (0.85-1.66) \end{gathered}$ | $\begin{gathered} 1.14 \\ (0.84-1.53) \end{gathered}$ | $\begin{gathered} 1.45 \\ (1.09-1.92) \end{gathered}$ |

[^2]
[^0]:    ${ }^{1}$ Logistic regression models were adjusted for sex, age group, snack consumption, HDAS, parental educational status, migrant background and country -OR not reported. ${ }^{2}$ DM-Digital media

[^1]:    ${ }^{1}$ Logistic regression models were adjusted for sex, age group, snack consumption, HDAS, parental educational status, migrant background and country -OR not reported. ${ }^{2}$ DM-Digital media

[^2]:    ${ }^{1}$ Logistic regression models were adjusted for age (continuous), snack consumption, HDAS, parental educational status, migrant background and country -OR not reported. ${ }^{2}$ DM-Digital media

