Psychosocial correlates of oral hygiene behaviour in people aged 9 to 19

Published in:
Community Dentistry and Oral Epidemiology

DOI:
10.1111/cdoe.12224

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
## Table S1. Characteristics of the included studies

<table>
<thead>
<tr>
<th>Study, country, design, (quality assessment score)</th>
<th>Sample (number, gender, age)</th>
<th>Psychosocial correlates (Theoretical framework)</th>
<th>The independent correlations with 95% CI per oral hygiene behaviour outcome</th>
</tr>
</thead>
</table>
| Aleksejuniene et al. 2012* Lithuania; Cross-sectional study (4 points) | n=235<sup>a</sup>, <sup>b</sup>; mix aged 12-13 years | 1. Locus of control (internal)  2. Locus of control (external) | - Plaque score (IQP-index)  
   1. 0.02 (-0.11;0.15)  
   2. -0.06 (-0.18;0.07)  

- Self-reported tooth brushing frequency  
   1. na.  
   2. -0.11 (-0.24;0.01) |
| Ayo-Yusuf et al. 2009** South Africa; Prospective study (18 months) (6 points) | n=526; mix mean age(SD) in years=14.4 (1.5) | 1. Sense of coherence 2. Depression vulnerability** 3. Attitude 4. Intention (I-Change Model) | - Self-reported tooth brushing frequency  
   1. 0.02 (-0.07;0.11)  
   2. 0.13 (0.05;0.21)  
   3. 0.05 (-0.04;0.14)  
   4. 0.08 (-0.01;0.16) |
| Cinar et al. 2009** Finland; Cross-sectional study (4 points) | n=338; mix aged 10-12 years | 1. Self-efficacy | - Self-reported tooth brushing frequency  
   1. 0.22 (0.11;0.32) |
| Cinar et al. 2009* Turkey; Cross-sectional study (3 points) | n=611; mix aged 10-12 years | 1. Self-efficacy | - Self-reported tooth brushing frequency  
   1. 0.28 (0.20;0.35) |
| Dorri et al. 2010** Iran; Cross-sectional study (4 points) | n=911; mix Mean age(SD) in years=12,4 (0.8) Range=11-16 years | 1. Sense of coherence (Salutogenic model) | - Self-reported tooth brushing frequency  
   1. 0.09 (0.03;0.15) |
| Freire et al. 2001** Brazil; Cross-sectional study (3 points) | n=664; mix 15 year olds | 1. Sense of coherence (Salutogenic model) | - Self-reported tooth brushing frequency  
   1. 0.01 (-0.07;0.08)  

- Plaque score (index of Silnes & Löe)  
   1. 0.03 (-0.05;0.10) |
| Gholami et al. 2014** Iran; Cross-sectional study (4 points) nested within a prospective study (1 month) (6 points) | n=156; F aged 11-15 years mean age(SD) in years=12,5 (1,1) | 1. Intention 2. Self-efficacy 3. Action planning 4. Coping planning (HAPA constructs) | - Self-reported flossing frequency  
   <sup>cross</sup> (n=156)  
   1. 0.65 (0.55; 0.73)  
   2. 0.72 (0.64;0.80)  
   3. -0.09 (-0.24; 0.07)  
   4. 0.04 (-0.12;0.20)  

- Self-reported tooth brushing frequency  
   <sup>pros</sup> (n=89)  
   1. 0.12 (0.08;0.17)  
   2. 0.10 (0.05;0.14)  

- Self-reported flossing frequency  
   1. 0.16 (0.12;0.20)  
   2. 0.04 (0.00;0.08) |
| Honkala et al. 2007** Kuwait; Cross-sectional study (3 points) | n=1826; mix; Mean age: 11.9 years (SD ±1.3); range=11-13 years | 1. Self-esteem 2. Life-satisfaction** | - Self-reported tooth brushing frequency  
   1. 0.02 (-0.12;0.15)  
   2. 0.16 (-0.05;0.36)  

- Self-reported flossing frequency  
   1. 0.06 (0.00;0.17)  
   2. 0.06 (0.00;0.11) |
| Kallestal et al. 2006** Sweden; 2 cross-sectional studies within the same study group (4 points) | n=2836; mix mean age in '97 = 14 years mean age in '99 = 16 years | 1. Self-esteem 2. Attitude | - Self-reported tooth brushing frequency  
   <sup>cross</sup>  
   1. 0.02 (-0.12;0.15)  
   2. 0.11 (0.06;0.17)  

- Self-reported flossing frequency  
   1. 0.48 (0.42;0.54)  
   2. 0.24 (0.16;0.31) |
| Kamalikhah et al. 2015** Iran; Cross-sectional study (4 points) | n=652; mix; Mean age: 16.3 years (SD ±1.02); | 1. Self-efficacy 2. Attitude | - Self-reported flossing frequency  
   1. 0.48 (0.42;0.54)  
   2. 0.24 (0.16;0.31) |
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Sample Size</th>
<th>Age Range</th>
<th>Outcomes</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koerber et al. 2006*</td>
<td>United States of America</td>
<td>n=575; mix mean age=10.8 years</td>
<td>1. Social influences 2. Self-esteem 3. Self-efficacy (Mixed models - social learning constructs)</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.34 (0.27;0.41) 2. 0.16 (0.08;0.24) 3. 0.12 (0.12;0.28)</td>
<td></td>
</tr>
<tr>
<td>Macgregor et al. 1997 Study 1</td>
<td>England</td>
<td>n=18158; f/m range=12-13 years</td>
<td>1. Self-esteem 2. Locus of control</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.03 (0.02;0.05) 2. 0.02 (0.00;0.03)</td>
<td></td>
</tr>
<tr>
<td>Macgregor et al. 1997 Study 2</td>
<td>England</td>
<td>n=4736; f/m age range=13-14 years</td>
<td>1. Self-esteem 2. Locus of control</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.06 (0.03;0.08) 2. 0.02 (-0.01;0.04)</td>
<td></td>
</tr>
<tr>
<td>Macgregor et al. 1997 Study 3</td>
<td>England</td>
<td>n=15492; f/m range=14-15 years</td>
<td>1. Self-esteem 2. Locus of control</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.07 (0.06;0.09) 2. 0.02 (-0.01;0.03)</td>
<td></td>
</tr>
<tr>
<td>Macgregor et al. 1997 Study 4</td>
<td>England</td>
<td>n=2756; f/m range=15-16 years</td>
<td>1. Self-esteem 2. Locus of control</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.07 (0.03;0.11) 2. 0.03 (-0.03;0.01)</td>
<td></td>
</tr>
<tr>
<td>Morowatisharifabad et al. 2007</td>
<td>Iran</td>
<td>n=300; mix mean age (SD) in years=17.45 ± 0.54 age range=17-19 years old</td>
<td>1. Perceived self-efficacy 2. Attitude 3. Social influences (Health Promotion Model)</td>
<td>Self-reported oral health behaviour (Brushing and its quality; brushing after consumption of sweets, flossing; use of fluoride mouth wash, and dental visits.)</td>
<td>1. 0.40 (0.31;0.50) 2. 0.38 (0.27;0.47) 3. 0.28 (0.17;0.34)</td>
<td></td>
</tr>
<tr>
<td>Pakpour et al. 2012</td>
<td>Iran</td>
<td>n=721, mix mean age (SD) in years=15.45 (1.18)</td>
<td>1. Intention 2. Attitude 3. Perceived behavioural control 4. Subjective norm 5. Action planning 6. Coping planning (TPB + HAPA constructs)</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.50 (0.44;0.55) 2. 0.34 (0.27;0.40) 3. 0.53 (0.47;0.58) 4. 0.26 (0.19;0.32) 5. 0.32 (0.25;0.38) 6. 0.51 (0.46;0.57)</td>
<td></td>
</tr>
<tr>
<td>Pakpour et al. 2012</td>
<td>Iran</td>
<td>n=961, mix mean age (SD) in years=15.61 (1.19), range=14-18 years old</td>
<td>1. Intention 2. Perceived behavioural control 3. Action planning 4. Coping planning (TPB + HAPA constructs)</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.40 (0.31;0.50) 2. 0.34 (0.28;0.40) 3. 0.37 (0.31;0.42) 4. 0.49 (0.44;0.54)</td>
<td></td>
</tr>
<tr>
<td>Polk et al. 2014* United States of America</td>
<td>n=576; mix aged 9-12 years mean age =10 years</td>
<td>1. Intention</td>
<td>Self-reported tooth brushing frequency</td>
<td>1. 0.50 (0.16;0.73)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Psychosocial Correlates of Oral Hygiene Behaviour

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Design</th>
<th>n</th>
<th>Age</th>
<th>Variables</th>
<th>Correlation (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poutanen et al. 2005</td>
<td>Finland</td>
<td>Cross-sectional (4 points)</td>
<td>1464</td>
<td>mix aged 11-12 year old</td>
<td>1. Attitude</td>
<td>Self-reported oral health behaviour (brushing, snacking and xylitol chewing gum)</td>
</tr>
<tr>
<td>Rise et al. 1998</td>
<td>Norway</td>
<td>Prospective (4 weeks)</td>
<td>163</td>
<td>mean age (SD) in years=15.3(0.3)</td>
<td>1. Attitude</td>
<td>Self-reported flossing frequency</td>
</tr>
<tr>
<td>Schou et al. 1990</td>
<td>Scotland</td>
<td>Cross-sectional (3 points)</td>
<td>4935</td>
<td>f/m 11, 13 &amp; 15 year olds</td>
<td>1. Health perception**</td>
<td>Self-reported tooth brushing frequency</td>
</tr>
<tr>
<td>Smyth et al. 2007</td>
<td>Spain</td>
<td>Cross-sectional (3 points)</td>
<td>1105</td>
<td>mix 12 year olds</td>
<td>1. Attitude (KAB model)</td>
<td>Plaque score (index of Silness &amp; Löe)</td>
</tr>
<tr>
<td>Tolvanen et al. 2012</td>
<td>Finland</td>
<td>Cross-sectional (4 points)</td>
<td>827</td>
<td>mean age (SD) in years=15.3(0.3)</td>
<td>1. Attitude</td>
<td>Self-reported oral health behaviour (tooth brushing, fluoride toothpaste, use of dental floss)</td>
</tr>
<tr>
<td>Tran et al. 2006</td>
<td>Vanuatu</td>
<td>Cross-sectional (3 points)</td>
<td>4474</td>
<td>mix range 11-17 year.</td>
<td>1. life-satisfaction</td>
<td>Self-reported tooth brushing</td>
</tr>
<tr>
<td>Tran et al. 2006</td>
<td>Tonga</td>
<td>Cross-sectional (3 points)</td>
<td>1485</td>
<td>mix range 11-17 year.</td>
<td>1. life-satisfaction</td>
<td>Self-reported tooth brushing</td>
</tr>
<tr>
<td>Tran et al. 2006</td>
<td>Pohnpei, FSM</td>
<td>Cross-sectional (3 points)</td>
<td>104</td>
<td>mix range 11-17 year.</td>
<td>1. life-satisfaction</td>
<td>Self-reported tooth brushing</td>
</tr>
<tr>
<td>Vakili et al. 2011</td>
<td>Iran</td>
<td>Cross-sectional (4 points)</td>
<td>300</td>
<td>mean age (SD) in years=16.24 (0.8) range=15-18 years</td>
<td>1. Self-efficacy</td>
<td>Self-reported oral health behaviour (brushing and its quality, brushing after consumption of sweets, dental visits, flossing, and use of a fluoride mouthwash)</td>
</tr>
<tr>
<td>Verryp et al. 1993</td>
<td>Netherlands</td>
<td>Cross-sectional (4 points)</td>
<td>518</td>
<td>mix 11 year old.</td>
<td>1. Attitude</td>
<td>Self-reported tooth brushing frequency</td>
</tr>
<tr>
<td>Williams 1972</td>
<td>United States of America</td>
<td>Cross-sectional (5 points)</td>
<td>386</td>
<td>f/m Age: na., (9th grade students ≤ 14-15 year old)</td>
<td>1. Locus of control (external)</td>
<td>Self-reported tooth brushing frequency</td>
</tr>
</tbody>
</table>

Note. cross: cross-sectional data; pros: prospective data; na.: data not available; AOR: Adjusted Odd Ratio; TPB: theory of planned behaviour; KAB: Knowledge-Attitude-behaviour; HAPA: Health Action Process Approach. a Smallest number of participants in relevant analyses; b Mix indicates a mixed sample of female (F) and males (M); For the studies denoted by the sign * applies that (additional) data were supplied by author. For variables denoted by the sign ** applies that these variables were excluded from the analysis, since meta-analyses were only performed if data of two or more independent correlations were available (k > 1). The software Comprehensive Meta-Analysis calculated the presented correlations with confidence interval (CI).