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

a systematic review with meta-analysis

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Psychosocial Correlates of Oral Hygiene Behaviour

Koerber et al. 2006 ^{42*} United States of America; Cross-sectional study (4 points)	n=575; mix mean age=10.8 years	1. Social influences 2. Self-esteem 3. Self-efficacy (Mixed models - social learning contracts)	- Self-reported tooth brushing frequency 1. 0.34 (0.27;0.41) 2. 0.16 (0.08;0.24) 3. 0.12 (0.12;0.28)
Macgregor et al. 1997 ²¹ Study 1 England; Cross-sectional study (3 points)	n=18158; f/m ^g range=12-13 years	1. Self-esteem 2. Locus of control	- Self-reported tooth brushing frequency 1. 0.03(0.02;0.05) 2. 0.02(0.00;0.03) - Self-reported flossing frequency 1. 0.00(-0.02;0.02) 2. -0.01(-0.03;0.01)
Macgregor et al. 1997 ²¹ Study 2 England; Cross-sectional study (3 points)	n=4736; f/m age range=13-14 years	1. Self-esteem 2. Locus of control	- Self-reported tooth brushing frequency 1. 0.06(0.03;0.08) 2. 0.02(-0.01;0.04) - Self-reported flossing frequency 1. -0.01(-0.03;0.03) 2. -0.03(-0.06;0.00)
Macgregor et al. 1997 ²¹ Study 3 England; Cross-sectional study (3 points)	n=15492; f/m range=14-15 years	1. Self-esteem 2. Locus of control	- Self-reported tooth brushing frequency 1. 0.08(0.06;0.09) 2. 0.04 (0.03;0.06) - Self-reported flossing frequency 1. 0.01(-0.01;0.02) 2. -0.01(-0.03;0.01)
Macgregor et al. 1997 ²¹ Study 4 England; Cross-sectional study (3 points)	n=2756; f/m range=15-16 years	1. Self-esteem 2. Locus of control	- Self-reported tooth brushing frequency 1. 0.07(0.03;0.11) 2. 0.07(0.03-0.10) - Self-reported flossing frequency 1. -0.05(-0.08;-0.01) 2. -0.04(-0.08;0.00)
Morowatisharifabad et al. 2007 ⁴³ Iran; Cross-sectional study (4 points)	n=300; mix mean age (SD) in years= 17,45 ± 0,54 range=17-19 years old.	1. Perceived self-efficacy 2. Attitude 3. Social influences (Health Promotion Model)	- Self-reported oral health behaviour (Brushing and its quality; brushing after consumption of sweets, flossing; use of fluoride mouth wash, and dental visits.) 1. 0.40 (0.31;0.50) 2. 0.38 (0.27;0.47) 3. 0.28 (0.17;0.34)
Pakpour et al. 2012 ⁴⁴ Iran; Cross-sectional study (4 points) nested within a prospective study (1 month) (6 points)	n=721, mix mean age (SD) in years=15.45 (1.18)	1. Intention 2. Attitude 3. Perceived behavioural control 4. Subjective norm 5. Action planning 6. Coping planning (TPB + HAPA constructs)	- Self-reported tooth brushing frequency cross pros 1. 0.50(0.44;0.55) 0.70(0.66;0.73) 2. 0.34(0.27;0.40) 0.46(0.40;0.51) 3. 0.53(0.47;0.58) 0.72(0.68;0.75) 4. 0.26(0.19;0.32) 0.34(0.28;0.41) 5. 0.32(0.25;0.38) 0.51(0.45;0.56) 6. 0.51(0.46;0.57) 0.71(0.67;0.74)
Pakpour et al. 2012 ⁴⁵ Iran; Cross-sectional study (4 points) nested within a prospective study (1 month) (6 points)	n=961, mix mean age (SD) in years=15.61 (1.19), range=14-18 years old	1. Intention 2. Perceived behavioural control 3. Action planning 4. Coping planning (TPB + HAPA constructs)	- Self-reported tooth brushing frequency cross pros 1. 0.46(0.41;0.51) 0.51(0.46;0.56) 2. 0.34(0.28;0.40) 0.47(0.42;0.52) 3. 0.37(0.31;0.42) 0.64(0.60;0.68) 4. 0.49(0.44;0.54) 0.56(0.52;0.60)
Polk et al. 2014 ⁴⁶ United states of America, prospective study (6 months) (5 points)	n=576; mix aged 9-12 years mean age =10 years	1. intention	- Self-reported tooth brushing frequency 1. 0.50 (0.16;0.73)

Psychosocial Correlates of Oral Hygiene Behaviour

Poutanen et al. 2005 ^{27*} Study 1 Finland; Cross-sectional study (4 points)	n=1464; mix aged 11-12 year old	1. Attitude	- Self-reported oral health behaviour (brushing, snacking and xylitol chewing gum) 1. 0.17(0.12;0.22)
Poutanen et al. 2005 ^{27*} Study 2 Finland; Cross-sectional study (4 points)	n=673; mix; aged 11-12 year old	1. Attitude	- Self-reported oral health behaviour (brushing, snacking and xylitol chewing gum) 1. 0.16(0.08;0.23)
Rise et al. 1998 ²⁸ Norway; Prospective study (4 weeks) (4 points)	n=163; mix mean age(SD) in years=15.3 (0.3)	1. Attitude 2. Subjective norm 3. Perceived behavioural control 4. Past behaviour 5. Intention (<i>TPB</i>)	- Self-reported flossing frequency 1. 0.17(0.02;0.32) 2. 0.30(0.15;0.43) 3. 0.42(0.29;0.54) 4. 0.45(0.32;0.57) 5. 0.50(0.38;0.61)
Schou et al. 1990 ²⁷ Scotland; Cross-sectional study (3 points)	n=4935; f/m 11, 13 & 15 year olds.	1. Health perception**	- Self-reported tooth brushing frequency 1. 0.13 (0.11;0.14)
Smyth et al. 2007 ^{47*} Spain; Cross-sectional study (3 points)	n=1105; mix 12 year olds	1. Attitude (<i>KAB model</i>)	- Plaque score (index of Silnes & Löe) 1. 0.11(0.05;0.17)
Tolvanen et al. 2012 ^{30*} Finland; Cross-sectional study (4 points)	n=827; mix 15 & 16 year olds	1. Attitude 2. Risk-perception** (<i>KAB model</i>)	- Self-reported oral health behaviour (tooth brushing, fluoride toothpaste, use of dental floss) 1. 0.35(0.29;0.41) 2. na. (not sign.)
Tran et al. 2006 ³⁰ Vanuata Cross-sectional study (3 points)	n=4474; mix range 11-17 year.	1. life-satisfaction	- Self-reported tooth brushing 1. AOR=0.99(0.85;1.16)
Tran et al. 2006 ³⁰ Tonga Cross-sectional study (3 points)	n=1485; mix range 11-17 year.	1. life-satisfaction	- Self-reported tooth brushing 1. AOR=1.05(0.85;1.28)
Tran et al. 2006 ³⁰ Pohnpei, FSM Cross-sectional study (3 points)	n=104; mix range 11-17 year.	1. life-satisfaction	- Self-reported tooth brushing 1. AOR=1.09(0.69;1.72)
Vakili et al. 2011 ²¹ Iran; Cross-sectional study (4 points)	n=300; mix mean age(SD) in years=16.24 (0.8) range=15-18 years	1. Self-efficacy 2. Attitude 3. Social influences 4. Intention (<i>Health Promotion Model</i>)	- Self-reported oral health behaviour (brushing and its quality, brushing after consumption of sweets, dental visits, flossing, and use of a fluoride mouth wash) 1. 0.53(0.44;0.61) 2. 0.36(0.26;0.45) 3. 0.39(0.29;0.48) 4. 0.32(0.22;0.42)
Verrips et al. 1993 ²² Netherlands Cross-sectional study (4 points)	n=518; mix, 11 year olds.	1. Attitude 2. Descriptive norm (parental)	- Self-reported tooth brushing frequency 1. AOR=2.2(1.3;4.0) 2. na.
Williams 1972 ²² United States of America; Cross-sectional study (5 points)	n=386; f/m Age: na.; (9 th grade students ≈ 14-15 years old)	1. Locus of control (external)	- Self-reported tooth brushing frequency 1. 0.07(-0.03;0.18)

Note. *cross:* cross-sectional data; *pros:* prospective data; *na.:* data not available; *AOR:* Adjusted Odds 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).