Supplemental Table 4: Evidence table of reference methodologies (alphabetical; yo = years old)

Author, publication year, study location	Title	Study design	Sample size (age)	Statistical method (not including descriptive statistics)	Preference-related outcome(s)
Aliani et al., 2012[51] Manitoba, Canada	Effect of flax addition on the flavor profile and acceptability of bagels	Within subjects design	N=9 (22-45 yo) N=89 (18-65 yo)	ANOVA, Tukey's test	Hedonic rating (flavor acceptability) using a point scale
Beauchamp and Cowart, 1990[37] Pennsylvania, United States	Preference for high salt concentrations among children	Within and between subjects design	Study 1 (A and B): N=28 (37-89 months) Study 2: N=18 (46-68 months) N=12 (81-125 months) N=28 (36-71 months) N=18 (20-39 yo) N=12 (25-37 yo)	Comparison of proportions (Study 1) Fisher's exact test (Study 2)	Study 1 = paired comparison Study 2 = Questionnaire and paired comparison
Beauchamp et al., 1986[56] Pennsylvania, United States	Developmental changes in salt acceptability in human infants	Within subjects design	N=54 (2.4-6.7 months) study one N=16 (7-23 months) study 2 N=18 (31-60 months) study 2	No statistical analyses other than descriptive statistics	Sweet and salty taste acceptability via amount consumed
Beauchamp and Moran, 1982[16] Pennsylvania, United States	Appetite: Dietary experience and sweet taste preference in human infants.	Longitudinal repeated measures design	N=199 (at birth infants) N=140 (same infants at 6 months)	Pearson's correlation, Intraclass correlation, ANOVA and ANCOVA, Newman Keuls post-hoc analyses,	Sweet solution preference via amount consumed
Beauchamp and Moran, 1984[17] Pennsylvania, United States	Acceptance of sweet and salty tastes in 2-year-old children	Longitudinal repeated measures design	N=63 (at birth infants, again 6 months, again at 2 yo)	ANOVA, post hoc tests, t-tests	Sweet and salty solution/food preferences via amount consumed
Capaldi et al., 2008[42] Florida, United States	Decreasing dislike for sour and bitter in children and adults	Within subjects design	N=63 (2-5 yo) N=32 (18-23 yo)	ANOVA, pairwise analysis	Liking ratings for sucrose solutions via pictures (children) or

					point scales (adults)
Chauhan and Hawrysh, 1988[43] Edmonton, Canada	Suprethreshold sour taste intensity and pleasantness perception with age	Within subjects design	N= 60 (20-29 yo) N=60 (70-79 yo) N=60 (80-99 yo)	ANOVA, Student-Newman-Keuls multiple-range tests	Taste and intensity numerical ratings relative to a reference
Coldwell et al., 2009[54] Washington, United States	A marker of growth differences between adolescents with high versus low sugar preference	Within subjects design	N=143 (11-15 yo)	Rank order and Mann-Whitney U, MANOVA, ANCOVA	Ratings of liking and intensity via visual analog scales
Conner and Booth, 1988[55] United Kingdom	Preferred sweetness of a lime drink and preference for sweet over non-sweet foods, related to sex and reported age and body weight	Within subjects design	N=344 (6-85 yo)	Least squares regression, Principal Components Analysis	Preference rating of lime drink + varying amounts of sugar using point scales
Cooke and Wardle, 2005[15] London, United Kingdom	Age and gender differences in children's food preferences	Cross-sectional survey	N=1291 (4-16 yo)	t-tests, ANOVA	Food item preference questionnaire responses
Copeland et al., 2007[28] Australia	Young Australians and alcohol: The acceptability of ready-to-drink (RTD) alcoholic beverages among 12-30-year-olds	Within subjects design	N=350 (12-30 yo)	ANOVA	Acceptability and liking of experimental alcoholic and nonalcoholic drinks using point scales
De Graaf et al., 1994[34] The Netherlands	Sensory perception and pleasantness in elderly subjects	Within subjects design	N=32 (20-25 yo) N=23 (72-82 yo)	ANOVA	Rate intensity and the pleasantness of five series of food flavors with multiple

					concentrations
De Graaf and Zandstra, 1999[18] The Netherlands	Sweetness intensity and pleasantness in children, adolescents, and adults	Within subjects design	N=30 (8–10 yo) N=30 (14–16 yo) N=30 (20–25 yo)	ANOVA, Pearson correlation coefficient, Kruskal-Wallis test	Rate sweetness and pleasantness using point scales and rank ordering
Deglaire et al., 2015[30] France	Associations between weight status and liking scores for sweet, salt and fat according to gender in adults (the Nutrinet-Sante study)	Web-based prospective observational cohort study	N= 46 909 (18+ yo)	ANOVA , Linear regression analysis of covariance	Sweet and fat liking of foods using point scales
Desor et al., 1975[39] Pennsylvania, United States	Preferences for sweet and salty in 9- to 15-year old and adult humans	Within subjects design	N= 618 (9-15 yo) N=140 (adults)	Chi square	Preference tests (ranking) from four concentrations each of sucrose, lactose, sodium chloride
Desor and Beauchamp, 1987[23] Pennsylvania, United States	Longitudinal changes in sweet preferences in humans	Longitudinal study	N=44 (tested first at 11-15 yo and tested second at 19-25 yo)	Chi square	Preference tests (ranking) from four concentrations each of sucrose
Drewnowski et al., 2001[44] Washington, United States	Genetic taste responses to 6-n-propylthiouracil among adults: A screening tool for epidemiological studies	Within subjects design	N=742 (18-70 yo)	Chi square, regression analyses	Rate taste intensity and hedonic preferences for bitter and sweet using point scale
Engen, 1974[12] Rhode Island, United States	The potential usefulness of sensations of odor and taste in keeping children away from harmful substances	Within subjects design	N=16 (4 yo) N=17 (7 yo) N=35 (adult)	Pairwise comparison of proportions	Odorant or taste pairs with forced choice of “liked best” or “liked least”
Enns et al., 1979[36] New York,	Contributions of age, sex and degree of	Within subjects design	N=21 (5^{th} grade students) N=27 (college	Chi square, linear regression	Rate preference of sucrose solutions by

United States	fatness on preferences and magnitude estimations for sucrose in humans		undergraduates) N=12 (“elderly”)		hedonic rating (point scale) and paired comparison
Forestell and Mennella Monell, 2005[47] Pennsylvania, United States	Children’s hedonic judgments of cigarette smoke odor: Effects of parental smoking and maternal mood	Within subjects design	N=237 (3-8 yo)	Cochran’s Q tests, Pearson’s chi square, Spearman’s ranked correlation, ANOVA	Rate liking, identification and preference for a variety of odors via age-appropriate games (e.g., “the smell game”).
Knaapila et al., 2012[33] Pennsylvania, United States	Genetic analysis of chemosensory traits in human twins	Within subjects design	N=572 (21-82 yo)	Pearson’s correlation, t-test, Chi-square test correlation	Rate taste and smell on sweetness, liking, pleasantness, intensity, saltiness, bitterness, sourness, and/or burn rating scales
Kniep et al., 1931[50] Illinois, United States	Studies in affective psychology	Within subjects design	N=100 (first experiment 18-24 yo) N=100 (second experiment 18-24 yo)	No statistical analyses; percentages only Comparison of percentage of pleasantness	Rate percent pleasantness of a group of odors (0-100%); Rated individual odors on a pleasantness rating scale
Laing and Clark, 1983[49] Australia	Puberty and olfactory preferences of males	Within subjects design	N=82 (8-9 yo) N=118 (14 yo) N=102 (16 yo)	ANOVA, rank order	Hedonic ratings (like/dislike) of pairs of odors on a continuous scale
Lanfer et al., 2012[13] Italy, Estonia, Cyprus, Belgium, Sweden, Germany, Hungary, Spain	Taste preferences in association with dietary habits and weight status in European children: results from the IDEFICS study	Within subjects design	N=1696 (6-9 yo)	Chi square, linear regression, logistic regression	Forced preference choice between two tastes for five tastes
Lanfer et al., 2013[14]	Predictors and correlates of	Within subjects	N=1705 (6-9 yo)	Chi square, logistic	Taste thresholds evaluated.

Italy, Estonia, Cyprus, Belgium, Sweden, Germany, Hungary, Spain	taste preferences in European children: The IDEFICS study	design		regression	Preference for various flavors in liquid and solid mediums using paired comparison tests
Liem and Mennella, 2003[41] Pennsylvania, United States	Heightened sour preferences during childhood	Within subjects design	N=61 (5-9 yo) N= 61 (adult mothers)	Chi square, Kendall tau correlations, Friedman's test, ANOVA	Rank preference and intensity ratings for gelatins with different concentrations of sour
Liem and de Graaf, 2004[27] The Netherlands	Sweet and sour preferences in young children and adults: role of repeated exposure	Within subjects design	N=59 (6-11) N=46 ("young adult")	Mann–Whitney U-tests, chi square, Spearman correlation coefficients, Tau correlation coefficient, Wilcoxon Signed Rank test	Rank preference of drinks and yogurt with different sweet and sour levels most preferred to least preferred
Liem et al., 2004[19] The Netherlands	Consistency of sensory testing with 4- and 5-year-old children	Within subjects design	N=21 (4 yo) N=47 (5 yo) N=22 ("young adult")	Pearson correlation coefficients, Friedman analyses of ranks, rank order tests, t-tests	Paired comparison and rank-order tests of pairs for "'In which beverage did we put the most sugar?'' and "Which one do you like best?"
Liem et al., 2010[52] London, United Kingdom	Prediction of children's flavor preferences. Effect of age and stability in reported preferences	Within subjects design	N=152 (3-10 yo)	Friedman analyses of ranks, post-hoc tests, Spearman rank order correlation coefficient	Liking categorization of five flavors of ice cream by "bad", "okay","nice"; ranking from most preferred to least preferred.
Logue and Smith, 1986[32]	Predictors of food preferences in	Cross-sectional survey	N=303 (14-68 yo)	Pearson product-moment	Food preferences questionnaire

New York, United States	adult humans			correlation comparisons,	
Mennella et al., 2003[45] Pennsylvania, United States	Modification of bitter taste in children	Within subjects design	N=34 (7-10 yo) N <34 (mothers of child or children)	Binomial distribution tests, Friedman two-way non-parametric analyses	Age-appropriate game-like forced-choice task between pairs of solutions; preference ranking of solutions
Mennella et al., 2011[24] Pennsylvania, United States	Evaluation of the Monell forced-choice, paired-comparison tracking procedure for determining sweet taste preferences across the lifespan	Within subjects design	N=356 (5-9.9 yo) N=169 (10-19.9 yo) N-424 (“adult”)	ANOVA, regression analysis	Forced choice preferences between pairs of solutions with solutions presented multiple times with one identified as preferred over the others
Mennella et al., 2012[21] Pennsylvania, United States	The proof is in the pudding: children prefer lower fat but higher sugar than do mothers	Within subjects design	N=84 (5-10 yo) N=67 (mothers)	ANOVA, chi square	Forced choice preference pairs; ranking of most to least preferred combinations of sucrose and fat
Mennella et al., 2014[20] Pennsylvania, United States	Preferences for salty and sweet tastes are elevated and related to each other during childhood	Within subjects design	N=108 (5-10 yo) N=83 (mothers)	ANOVA, t-tests, Pearson’s correlation	Forced choice preference between pairs
Monneuse et al., 1991[26] Paris, France	Impact of sex and age on sensory evaluation of sugar and fat in dairy products	Within subjects design	N=74 (10-13 yo) N=49 (14-15 yo) N=42 (16-19 yo) N=61 (20+ yo)	ANOVA	Hedonic, sweetness and fat ratings using point scales
Murphy, 1983[53] Pennsylvania, United States	Age-related effects on the threshold, psychophysical function, and pleasantness of	Within subjects design	N=10 (18-26 yo) N=10 (>65 yo)	Mann-Whitney U tests, linear regression	Up-down method for tracking thresholds of perception

	menthol				
Murphy and Withee, 1986[29] California, United States	Age-related differences in the pleasantness of chemosensory stimuli	Within subjects design	N=100 (18-26 yo) N=100 (32-45 yo) N=100 (65-93)	ANOVA, Newman-Keuls multiple-range tests	Rate pleasantness/ unpleasantness of different sweet, salty and sour solutions on a continuous scale
Nu et al., 1996[22] South of France	Effects of age and gender on adolescents' food habits and preferences	Survey	N=222 (10-20 yo)	Chi-square	Survey of eating behavior and food preferences
Rinck et al., 2011[48] Villeneuve-le`s-Maguelone, France	Ontogeny of odor liking during childhood and its relation to language development	Longitudinal within subjects design	N=15 (3 yo; retested at 4 and 5 yo)	"language production scores", z-test for comparing means -	Odors tested with "Do you like or dislike this odor?" and "Can you tell me what it is?"
Schiffman et al., 2000[31] North Carolina, United States	Elevated and sustained desire for sweet taste in African-Americans: A potential factor in the development of obesity	Within subjects design	N=11 (African-Americans with mean age of 27.8) N=12 (European Americans with mean age of 25.2) N=11 (African-Americans with mean age of 73.1) N=11 (European Americans with mean age of 74.8)	ANOVA, rank order correlation	Measure calories consumed of various drinks and foods; continuous rating scale for "How strong is your desire for another taste of this sample?" and "How strong is your desire for a different taste?"
Schmidt et al., 1988[46] Pennsylvania, United States	Adults-like odor preferences and aversions in three-year-old children	Within subjects design	N=16 (3 yo) N=17 (adults)	Log-linear analysis, partial Chi square, post-hoc Fisher exact probability tests, Spearman's rank correlation	Forced choice hedonic "reactions" to odors using age appropriate "smell game" (good or bad/yucky); Rank order preference by adults
Schwartz et al., 2009[11] France	Developmental changes in the acceptance of the five basic	Within subjects design	N=45 (3 month old infants) N= 45 (6 month old infants)	Student's t-test, chi square, ANOVA	Taste acceptability via amount consumed from

	tastes in the first year of life		N=45 (12 month old infants)		bottles
Thompson et al., 2007[25] North Carolina, United States	Chocolate milk and the Hispanic customer	Focus groups plus follow up and Consumer testing	(Focal groups) N=31 (Hispanic 18-55 yo) N=31 (Caucasian 18-55 yo) N=29 (Hispanic 10-14 yo) (Consumer testing) N=45 (Hispanic 10-14 yo) N=29 (Hispanic) N=91 (Caucasian	ANOVA, chi square, generalized linear models, mixed model ANOVA	Consumption habits; tasting and discussion of commercial milk products
Verma et al., 2007[38] India	Salt preference: Age and sex related variability	Within subjects design	N=60 (7-12 yo) N=60 (18-21 yo)	ANOVA	Rate preference for popcorns with varying saltiness on a numerical scale
Zallen et al., 1990[40] North Carolina, United States	Salt taste preferences and perceptions of elderly and young adults	Within subjects design	N=53 (20-35 yo) N=48 (65-78 yo)	ANOVA	Rate salt preference for test foods on a numerical scale
Zandstra et al., 1998[35] The Netherlands	Sensory perception and pleasantness of orange beverages from childhood to old age	Within subjects design	N=31 (6-12 yo) N=30 (13-18 yo) N=30 (19-34 yo) N=30 (35-49 yo) N=29 (50-65 yo) N=30 (65+ yo)	ANOVA, Friedman's chi square	Rate pleasantness, sweetness, sourness, flavor intensity on a numerical scale