

This is a repository copy of Measuring eating capability, liking and difficulty perception of older adults: A textural consideration..

White Rose Research Online URL for this paper: http://eprints.whiterose.ac.uk/100686/

Version: Accepted Version

Article:

Laguna, L, Hetherington, M, Chen, J et al. (2 more authors) (2016) Measuring eating capability, liking and difficulty perception of older adults: A textural consideration. Food Quality and Preference, 53. pp. 47-56. ISSN 0950-3293

https://doi.org/10.1016/j.foodgual.2016.05.013

© 2016. This manuscript version is made available under the CC-BY-NC-ND 4.0 license http://creativecommons.org/licenses/by-nc-nd/4.0/

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



Table 1. Participant's physical characteristics. Data are presented as means (± standard deviation) with range of scores below in italics

Age (years)	Right hand gripping force (kg)	Left hand gripping force (kg)	Tongue pressure (kPa)	Bite force average (kg)	D* Right hand	D* Left hand
79.74(±9.57)	39.50 (±17.86)	24.07(±11.09)	37.52 (±16.19)	3.76(±2.51)	40.70(±14.78)	40.00 (±13.40)
67-99	0-75	0-46	3-76	0.01-70	0-68	0-67

Note. Three Participants with partial paralysis in the arms were marked with a 0 as hand grip force, because they were not able to grip the dynamometer

^{*}D: Counted as number of pieces removed using Kit for Manual Dexterity

Table 2. Pearson correlation coefficients between age and eating capabilities

		Right hand	Left hand			D	
Variables	Age	gripping force	gripping force	Tongue pressure	Bite force	Right hand	D Left hand
Age	1	-0.457	-0.374	-0.219	0.024	-0.438	-0.364
Right hand Gripping force		1	0.871	0.430	0.176	0.475	0.372
Left hand Gripping force			1	0.392	0.185	0.559	0.580
Tongue pressure				1	0.025	0.143	0.305
Bite force					1	0.151	0.214
D Right hand						1	0.811
D Left hand							1

Values in bold are significant at p<0.05
*D: Counted as number of pieces removed using Kit for Manual Dexterity

Table 3. Mean dependent variables (objective and subjective) for EC groups.

	Number of participants	Age (Years)	Eating capability score	Right hand gripping force (Kg)	Left hand gripping force (Kg)	Tongue pressure (kPa)	Bite force (Kg)	D* Right hand	D* Left hand	Oral residence time gels (s)	Oral residence time food (s)	Number of chews (gel)	Number of chews (Food)	Difficulty score gels (from 1 to 10)	Difficulty score food(from 1 to 10)
EC1	17	82.00 ^a (10.54)	1.53 ^a 0.33	28.85 ^a (13.17)	15.97 ^a (10.07)	29.12 ^a (17.66)	2.29 ^a (2.14)	31.47 ^a (13.54)	31.29 ^a (15.39)	10.12 ^a (5.06)	14.20 ^a (4.08)	15.73 ^a (8.59)	17.95 ^a (4.41)	2.36 ^a (2.50)	2.86 ^a (1.56)
EC2	10	78.11 ^{ab} (5.91)	2.59 ^b 0.26	42.12 ^{ab} (16.74)	39.70a ^b (9.79)	47.90 ^a (12.90)	4.90 ^{ab} (1.84)	46.40 ^{ab} (8.73)	48.30 ^{ab} (9.66)	12.64 ^a (9.74)	15.51 ^a (6.05)	16.32 ^a (10.91)	18.64 ^a (5.22)	3.29 ^a (1.73)	2.64 ^a (1.63)
EC3	3	68.67 ^b (1.15)	3.23 ^c 0.12	70.17 ^b (7.48)	26.97 ^b (8.04)	48.33 ^a (11.68)	6.43 ^b (0.18)	53.00 ^b (16.09)	54.67 ^b (16.65)	14.00 ^a (3.12)	11.67 ^a (5.04)	21.07 ^a (4.80)	15.29 ^a (4.38)	3.67 ^a (2.31)	3.55 ^a (2.21)

Values in parentheses are standard deviations. Means (in the same column) with the same letter do not differ significantly (p<0.05) according to the Tukey test

EC: eating capability

^{*}D: Counted as number of pieces removed using Kit for Manual Dexterity,

Table 4. Participant's dental status, average bite force and number of participants included in the group.

Dental status	Bite force (kg)	Number of participants
Natural	6.08 ^a (1.11)	5
Crowns with natural teeth	3.21 ^{ab} (1.87)	8
Denture	2.60 ^{ab} (2.52)	12
Nothing (nude gum)	2.09 ^{ab} (1.14)	3
Fix implants	6.59	1
Missing significant number of teeth	3.69	1

Values in parenthesis are standard deviations. Means without a common letter differ (p<0.05) according to the Tukey test.