

Appendix 3. Evaluation of the combination of static and dynamic visual variables & sound variables for users of different age groups

Number of		COMBINATIONS OF VARIABLES														
items	variables															
0	4	1 2 3 4 α β γ ⊕ (1) (2) (3) (4) (5) (6) (7) (8)														
1	4	1 2 3 4 αb, αc, βb, βc, γb, γc ⊕ (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 αa, γa ⊕ (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 αb, αc βb, βc γb, γc ⊕ (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 αa, βa, γa ⊕ (1) (2) (3) (4) (5) (6) (7) (8)											
1	5	1 2 3 4 5 βa, βb, γa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 6 (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 αa, αb, βa, βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 αa, αb, βa, βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 9 αa, αb, αc (1) (2) (3) (4) (5) (6) (7) (8)										
2	4	1 2 3 4 (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 αb, βb, βc, γb, γc ⊕ ⊕ (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 αa, γa ⊕ ⊕ ⊕ (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 (1) (2) (3) (4) (5) (6) (7) (8)									
2	5	1 2 3 4 5 βb, (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 6 (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 αb, βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 αb, βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 9 αb, αc (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 γa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 6 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 9 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 6 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 αa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 9 αa (1) (2) (3) (4) (5) (6) (7) (8)

					(8)	(7)(8)			[6](7) (8)	(7) (8)	[6](7) (8)	(7) (8)		[3](4) [5](6) (7) (8)	[4](5) [6] (7) (8)	(7) (8)
2	5	$\underline{1\ 2\ 3\ 4\ 5}\ \beta a, \gamma a$ (1) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 6}$	$\underline{1\ 2\ 3\ 4\ 7}$ $\alpha a, \beta a$ (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 8}$ $\alpha a, \beta a$ (1) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 9}$ $\alpha a,$ (1) [3] [4] [5] [6] (7) (8)										
2	6	$\underline{1\ 2\ 3\ 4\ 5\ 6}$	$\underline{1\ 2\ 3\ 4\ 5\ 7}$ $\beta a, \beta b,$ (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 5\ 8}$ $\beta a, \beta b,$ (1) [2] [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 5\ 9}$	$\underline{1\ 2\ 3\ 4\ 6\ 7}$	$\underline{1\ 2\ 3\ 4\ 6\ 8}$	$\underline{1\ 2\ 3\ 4\ 6\ 9}$	$\underline{1\ 2\ 3\ 4\ 7\ 8}$ $\beta a, \beta b,$ (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 7\ 9}$ $\beta b,$ (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 8\ 9}$ $\beta a, \beta b,$ (1) (2) [3] [4] [5] [6] (7) (8)					
3	4	$\underline{1\ 2\ 3\ 4}$	$\underline{1\ 2\ 3\ 4}$	$\underline{1\ 2\ 3\ 4\ \beta c},$ $\otimes \otimes \otimes$ (1) [2] [3] [4] [5] [6] (8)	$\underline{1\ 2\ 3\ 4}$											
3	5	$\underline{1\ 2\ 3\ 4\ 5}$	$\underline{1\ 2\ 3\ 4\ 6}$	$\underline{1\ 2\ 3\ 4\ 7}$	$\underline{1\ 2\ 3\ 4\ 8}$	$\underline{1\ 2\ 3\ 4\ 9}$ $\alpha b, \alpha c$ (1) [2] [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 5\ \beta b}$ (1) [2] [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 6\ 7}$	$\underline{1\ 2\ 3\ 4\ 7\ 8}$ βb (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 8\ 9}$ $\alpha b, \beta b$ (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 9\ 5}$ $\alpha b, \alpha c$ (1) [2] [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 5\ 6}$ βb (1) [2] [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 6\ 7}$	$\underline{1\ 2\ 3\ 4\ 7\ 8}$ βb (1) (2) [3] [4] [5] [6] (7) (8)	$\underline{1\ 2\ 3\ 4\ 8\ 9}$	$\underline{1\ 2\ 3\ 9}$

3	5	1 2 3 4 5	1 2 3 4 6	1 2 3 4 7	1 2 3 4 8	1 2 3 4 9	1 2 3 4 5 ya (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 6	1 2 3 4 7 aa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 aa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 9 aa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5	1 2 3 4 6	1 2 3 4 Z	1 2 3 4 8	1 2 3 4 9 ab, ac (1) (2) (3) (4) (5) (6) (7) (8)
3	6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 8 bb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 aa ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 8 bb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 8 ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 Z bb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 Z ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 Z bb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 Z ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 Z 8 ab bb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 8 aa ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 8 ab bb (1) (2) (3) (4) (5) (6) (7) (8)
3	6	1 2 3 4 7 8 aa, ba (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 9 ab (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 9 aa, (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 9 ab (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 7 9 aa, (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 9	1 2 3 4 5 9	1 2 3 4 5 9	1 2 3 4 5 9	1 2 3 4 6 9	1 2 3 4 6 9	1 2 3 4 6 9	1 2 3 4 6 9	1 2 3 4 8 9 ab (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 9
3	6	1 2 3 4 8 9 ab (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 8 9 aa (1) (2) (3) (4) (5) (6) (7) (8)													
3	7	1 2 3 4 5 6 7	1 2 3 4 5 6 8	1 2 3 4 5 6 9	1 2 3 4 5 7 8 ba, bb (1) (2) (3) (4)	1 2 3 4 5 7 9	1 2 3 4 6 7 8	1 2 3 4 6 Z 9	1 2 3 4 7 8 9 aa, ab							

					[5] [6] (7) [8]				(1) (2) [3] [4] [5] [6] (7) [8]							
4	4	<u>1 2 3 4</u>														
4	5	<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 8</u>	<u>1 2 3 4 9</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 8</u>	<u>1 2 3 4 9</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4</u>	<u>1 2 3 4 8</u>	<u>1 2 3 4 9</u>
		<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 8</u>	<u>1 2 3 4 9</u>								<u>7</u>		<u>ab, ac</u>
4	6	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 6</u>
						<u>bb</u> (1) (2) [3] [4] [5] [6] (7) [8]		<u>8</u>	<u>8 bb</u> (1) (2) [3] [4] [5] [6] (7) (8)	<u>8</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>6 7</u>	<u>7</u>	<u>7</u>
4	6	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 6 8</u>	<u>1 2 3 4 6 8</u>	<u>1 2 3 4 6 8</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 5</u>
								<u>8</u>	<u>8 ab_bb</u> (1) (2) [3] [4] [5] [6] (7) (8)	<u>8</u>	<u>6</u>	<u>8</u>	<u>9</u>	<u>7 8</u>	<u>9</u>	<u>6</u>
4	6	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 8</u>	<u>1 2 3 4 5 8</u>	<u>1 2 3 4 6 7</u>	<u>1 2 3 4 6 8</u>	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4 5</u>	<u>1 2 3 4</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 6</u>
4	6	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 8</u>	<u>1 2 3 4 5 9</u>	<u>1 2 3 4 6 7</u>	<u>1 2 3 4 6 8</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 8</u>					
								<u>9</u>	<u>9 aa</u> (1) (2) [3] [4] [5]	<u>9</u>	<u>9</u>					

									[6] (7) (8)							
4	7	<u>1 2 3 4 5 6 7</u>	<u>1 2 3 4 5 6</u> 7	<u>1 2 3 4 5 6</u> 7	<u>1 2 3 4 5 6</u> 7	<u>1 2 3 4 6 7</u> 8	<u>1 2 3 4 6 7</u> 8	<u>1 2 3 4 6</u> 7 8	<u>1 2 3 4 6</u> 7 8	<u>1 2 3 4 5</u> 7 8 βb (1) (2) (3) (4) (5) (6) (7) (8)	<u>1 2 3 4 5</u> 7 8	<u>1 2 3 4 5</u> 7 8 βb (1) (2) (3) (4) (5) (6) (7) (8)	<u>1 2 3 4 5</u> 7 8 βa (1) (2) (3) (4) (5) (6) (7) (8)	<u>1 2 3 4</u> 5 6 8	<u>1 2 3 4 5</u> 6 8	<u>1 2 3 4 5</u> 6 8
4	7	<u>1 2 3 4 5 6 8</u>	<u>1 2 3 4 5 6</u> 9	<u>1 2 3 4 5 6</u> 9	<u>1 2 3 4 5 6</u> 9	<u>1 2 3 4 5 6</u> 9	<u>1 2 3 4 6 7</u> 9	<u>1 2 3 4 6</u> 7 9	<u>1 2 3 4 6</u> 7 9	<u>1 2 3 4 6</u> 7 9	<u>1 2 3 4 5</u> 7 9	<u>1 2 3 4 5</u> 7 9	<u>1 2 3 4 5</u> 7 9	<u>1 2 3 4</u> 5 7 9	<u>1 2 3 4 7</u> 8 9 $a b$ (1) (2) (3) (4) (5) (6) (7) (8)	<u>1 2 3 4 7</u> 8 9
		<u>1 2 3 4 7 8 9</u> $a b$ (1) (2) (3) (4) (5) (6) (7) (8)	<u>1 2 3 4 7 8</u> 9													
4	8	<u>1 2 3 4 5 6 7 8</u>														
5	5	<u>1 2 3 4 5</u>	<u>1 2 3 4 6</u>	<u>1 2 3 4 7</u>	<u>1 2 3 4 8</u>	<u>1 2 3 4 9</u>										
5	6	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 6</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5 7</u>	<u>1 2 3 4 5</u> 8	<u>1 2 3 4 5</u> 8	<u>1 2 3 4 5</u> 8	<u>1 2 3 4 6</u> 7	<u>1 2 3 4 6</u> 7	<u>1 2 3 4 6</u> 7	<u>1 2 3 4</u> 6 8	<u>1 2 3 4 6</u> 8	<u>1 2 3 4 6</u> 8
		<u>1 2 3 4 6 9</u>	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 6 9</u>	<u>1 2 3 4 5 9</u>	<u>1 2 3 4 5 9</u>	<u>1 2 3 4 5 9</u>	<u>1 2 3 4 5</u> 6	<u>1 2 3 4 5</u> 7	<u>1 2 3 4 5</u> 8	<u>1 2 3 4 5</u> 9	<u>1 2 3 4 6</u> 7	<u>1 2 3 4 6</u> 8	<u>1 2 3 4</u> 6 9	<u>1 2 3 4 7</u> 8	<u>1 2 3 4 7</u> 9
		<u>1 2 3 4 7 8</u>	<u>1 2 3 4 7 8</u>	<u>1 2 3 4 7 8</u>	<u>1 2 3 4 7 8</u>	<u>1 2 3 4 7 9</u>	<u>1 2 3 4 7 9</u>	<u>1 2 3 4 7</u> 9								

5	7	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8	1 2 3 4 5 6 8	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8 βb (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 6 8	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8	1 2 3 4 5 6 8	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8
		1 2 3 4 5 6 8	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8 βa (1) (2) (3) (4) (5) (6) (7) (8)	1 2 3 4 5 6 8	1 2 3 4 5 6 7	1 2 3 4 6 7 8	1 2 3 4 5 7 8	1 2 3 4 5 6 8	1 2 3 4 5 6 9	1 2 3 4 6 7 9	1 2 3 4 5 7 9	1 2 3 4 5 8 9	1 2 3 4 5 6 9	1 2 3 4 6 7 9
		1 2 3 4 5 7 9	1 2 3 4 5 8 9	1 2 3 4 5 6 9	1 2 3 4 5 7 9	1 2 3 4 5 8 9	1 2 3 4 5 6 9	1 2 3 4 5 7 9	1 2 3 4 5 8 9	1 2 3 4 5 6 9	1 2 3 4 5 7 9	1 2 3 4 5 8 9				

Key

Static visual variables

1 size; 2 form; 3 value; 4 colour; 5 grain; 6 orientation; 7 brilliance; 8 transparency; 9 aura; dynamized variables are underlined

Sound variables

Ⓒ Pitch; Ⓓ Register; Ⓔ Loudness; Ⓕ Timbre; Ⓖ Duration; Ⓗ Rhythm; Ⓘ Rate of change; Ⓢ Order; Ⓣ Frequency

Entities / measurement levels

α point entities; β line entities; γ area entities;

a - nominal scale measurable entities; b - ordinary scale measurable entities; c - quantitative scale measurable entities

Age groups

[1] [2] [3] [4] [5] [6] [7] - correct combination of variables for labelled age groups

{1} {2} {3} {4} {5} {6} {7} {8} conditional combination of variables for labelled age groups