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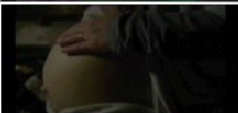
	Modality	
	Audio	Visual
Stimuli	(a) "Someone cut lemons"	
	(b) "He is using the knife"	
	(c) "She is wearing a wedding ring"	
	(d) "They have three children"	
	(e) "They are sitting in the bus"	
	(f) "She arrived at the bus stop"	
	(g) "She is going up the stairs"	
	(h) "She is walking uphill"	
	(i) "She removes the towel"	
	(j) "He is wiping the telephone"	
	(k) "She found the hairdryer"	
	(l) "She arrived at the hairsaloon"	

Table A1a. The audio and visual stimuli in Experiment 1. The combination of each audio sentence and visual clip led to each unique movieclip. Here the combinations for the semantically congruent movieclips are presented.

	Modality	
	Audio	Visual
Stimuli	(a) "She is climbing on a chair"	
	(b) "She is sitting to have a break"	
	(c) "She is walking in the neighborhood"	
	(d) "He is running on the paveway"	
	(e) "She is caressing the belly"	
	(f) "She is hugging a friend"	
	(g) "She is drinking a lemonade"	
	(h) "He is stirring a juice"	
	(i) "She is wiping the hair"	
	(j) "He is cleaning the potatoes"	
	(k) "She is folding the clothes"	
	(l) "She is taking off the apron"	

Table A1b. The audio and visual stimuli in Experiment 2. The combination of each audio sentence and visual clip led to each unique movieclip. Here the combinations for the semantically congruent movieclips are presented.

		Experiment 1			
		Mean Difference	SE	t	P _{holm}
Audio, yes	Visual, yes	-0.193	0.037	-5.275	< .001
	Audiovisual, yes	-0.333	0.037	-9.094	< .001
	Audio, no	-0.284	0.040	-7.044	< .001
Visual, yes	Audiovisual, yes	-0.140	0.037	-3.819	0.002
	Visual, no	-0.146	0.040	-3.619	0.004
Audiovisual, yes	Audiovisual, no	0.083	0.040	2.051	0.257
Audio, no	Visual, no	-0.055	0.037	-1.512	0.553
	Audiovisual, no	0.033	0.037	0.899	0.741
Visual, no	Audiovisual, no	0.088	0.037	2.411	0.121

Table A2a. Post Hoc Comparisons for Mean Proportion Correct in Experiment 1. The table represents post hoc tests for target present and target absent conditions (Modality * Target presence).

		Experiment 2			
		Mean Difference	SE	t	P _{holm}
Audio, yes	Visual, yes	-0.229	0.046	-5.000	< .001
	Audiovisual, yes	-0.466	0.046	-10.180	< .001
	Audio, no	-0.436	0.057	-7.689	< .001
Visual, yes	Audiovisual, yes	-0.237	0.046	-5.180	< .001
	Visual, no	-0.182	0.057	-3.219	0.009
Audiovisual, yes	Audiovisual, no	0.302	0.057	5.335	< .001
Audio, no	Visual, no	0.024	0.046	0.532	0.948
	Audiovisual, no	0.272	0.046	5.940	< .001
Visual, no	Audiovisual, no	0.248	0.046	5.408	< .001

Table A2b. Post Hoc Comparisons for Mean Proportion Correct in Experiment 2. The table represents post hoc tests for target present and target absent conditions (Modality * Target presence).

		Experiment 1			
		Mean Difference	SE	t	P _{holm}
Audio, yes	Visual, yes	-0.031	0.027	-1.120	0.529
	Audiovisual, yes	0.069	0.027	2.543	0.097
	Audio, no	-0.093	0.036	-2.554	0.097
	Audiovisual, no	-0.152	0.034	-4.494	< .001
Visual, yes	Audiovisual, yes	0.100	0.027	3.663	0.004
	Visual, no	-0.050	0.036	-1.375	0.518
	Audiovisual, no	-0.121	0.034	-3.589	0.006
Audiovisual, yes	Audio, no	-0.162	0.034	-4.812	< .001
	Visual, no	-0.150	0.034	-4.443	< .001
	Audiovisual, no	-0.221	0.036	-6.059	< .001
Audio, no	Visual, no	0.012	0.027	0.458	0.648
	Audiovisual, no	-0.059	0.027	-2.148	0.168
Visual, no	Audiovisual, no	-0.071	0.027	-2.606	0.092

Table A3a. Post Hoc Comparisons for Mean RT in Experiment 1. The table represents post hoc tests for target present and target absent conditions (Modality * Target presence).

		Experiment 2			
		Mean Difference	SE	t	P _{holm}
Audio, yes	Visual, yes	-0.016	0.030	-0.553	1.000
	Audiovisual, yes	0.112	0.030	3.747	0.003
	Audio, no	-0.028	0.041	-0.678	1.000
	Audiovisual, no	-0.117	0.043	-2.757	0.067
Visual, yes	Audiovisual, yes	0.128	0.030	4.280	< .001
	Visual, no	-0.086	0.041	-2.076	0.210
	Audiovisual, no	-0.101	0.043	-2.382	0.137
Audiovisual, yes	Audio, no	-0.140	0.043	-3.296	0.017
	Visual, no	-0.214	0.043	-5.027	< .001
	Audiovisual, no	-0.229	0.041	-5.557	< .001
Audio, no	Visual, no	-0.074	0.030	-2.460	0.122
	Audiovisual, no	-0.089	0.030	-2.982	0.034
Visual, no	Audiovisual, no	-0.016	0.030	-0.522	1.000

Table A3b. Post Hoc Comparisons for Mean RT in Experiment 2. The table represents post hoc tests for target present and target absent conditions (Modality * Target presence).

		Experiment 1				
	Sphericity Correction	Sum of Squares	df	Mean Square	F	p
Modality	None	0.074 _a	2.000 _a	0.037 _a	2.231 _a	0.115 _a
	Greenhouse-Geisser	0.074	1.408	0.053	2.231	0.133
Residuals	None	1.128	68.000	0.017		
	Greenhouse-Geisser	1.128	47.870	0.024		
Target presence	None	0.641	1.000	0.641	9.858	0.003★
Residuals	None	2.211	34.000	0.065		
Modality*Target presence	None	0.158 _a	2.000 _a	0.079 _a	4.202 _a	0.019★
	Greenhouse-Geisser	0.158	1.330	0.119	4.202	0.035
Residuals	None	1.282	68.000	0.019		
	Greenhouse-Geisser	1.282	45.223	0.028		

Table 4a. Repeated Measures ANOVA for Mean RT in Experiment 1 (only correct trials). The table shows the within subjects effects. The main factor Modality has three levels: Audio/Visual/Audiovisual(Both modalities). The main factor Target presence has two levels: Target present/Target absent. The red star marks statistically significant p values.

		Experiment 2				
	Sphericity Correction	Sum of Squares	df	Mean Square	F	p
Modality	None	0.359 _a	2.000 _a	0.179 _a	9.483 _a	< .001 _a ★
	Greenhouse-Geisser	0.359	1.426	0.251	9.483	0.001
Residuals	None	1.096	58.000	0.019		
	Greenhouse-Geisser	1.096	41.359	0.027		
Target presence	None	0.571	1.000	0.571	6.598	0.016★
Residuals	None	2.510	29.000	0.087		
Modality*Target presence	None	0.074 _a	2.000 _a	0.037 _a	1.206 _a	0.307 _a
	Greenhouse-Geisser	0.074	1.255	0.059	1.206	0.292
Residuals	None	1.778	58.000	0.031		
	Greenhouse-Geisser	1.778	36.396	0.049		

Table 4b. Repeated Measures ANOVA for Mean RT in Experiment 2 (only correct trials). The table shows the within subjects effects. The main factor Modality has three levels: Audio/Visual/Audiovisual(Both modalities). The main factor Target presence has two levels: Target present/Target absent. The red star marks statistically significant p values.

		Experiment 1			
	Sum of Squares	df	Mean Square	F	p
Congruency	0.148	1	0.148	4.111	0.050
Residuals	1.260	35	0.036		
Semantics	0.016	1	0.016	1.243	0.272
Residuals	0.437	35	0.012		
Congruency*Semantics	0.015	1	0.015	0.871	0.357
Residuals	0.606	35	0.017		

Table 5a. Repeated Measures ANOVA for Mean RT according to Semantics and Congruency in Experiment 1 (only correct trials). The table shows the within subjects effects. The main factor Congruency has the two levels Congruent/Incongruent. The main factor Semantics has the two levels verbs/nouns.

		Experiment 2			
	Sum of Squares	df	Mean Square	F	p
Congruency	0.718	1	0.718	9.810	0.004★
Residuals	2.344	32	0.073		
Semantics	0.021	1	0.021	0.380	0.542
Residuals	1.759	32	0.055		
Congruency*Semantics	0.004	1	0.004	0.103	0.750
Residuals	1.114	32	0.035		

Table 5b. Repeated Measures ANOVA for Mean RT according to Semantics and Congruency in Experiment 2 (only correct trials). The table shows the within subjects effects. The main factor Congruency has the two levels Congruent/Incongruent. The main factor Semantics has the two levels verbs/nouns. The red star marks statistically significant p values.

Figures

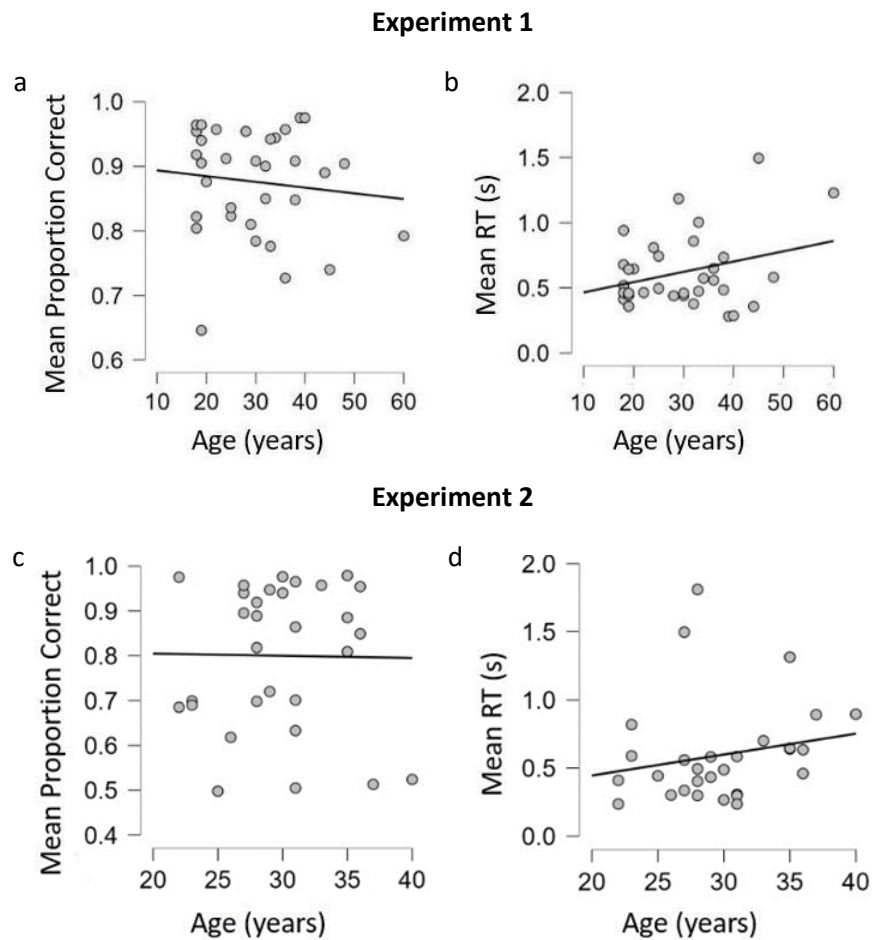
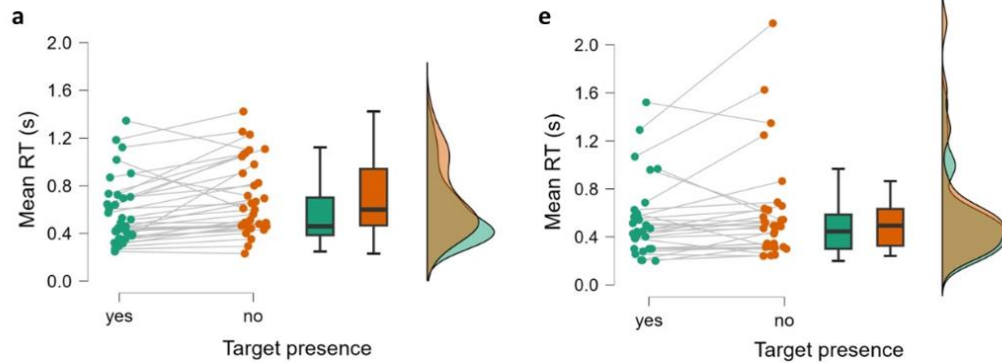


Figure A1. Correlation plots of mean proportion correct and mean RT vs. age, Experiment 1 and Experiment 2. The lines in (a), (b), and (c), (d) represent the direction of means of total sample for Experiment 1 and Experiment 2 respectively, that is how much the y value (mean proportion correct/mean RT) increases or decreases across the x value (age). Grey points represent the means of individual participants. a) and c) show the correlation between total sample's (Experiment 1: $N=36$; Experiment 2: $N=34$) mean proportion correct scores and age. b) and d) show the correlation between total sample's mean RT scores and age.

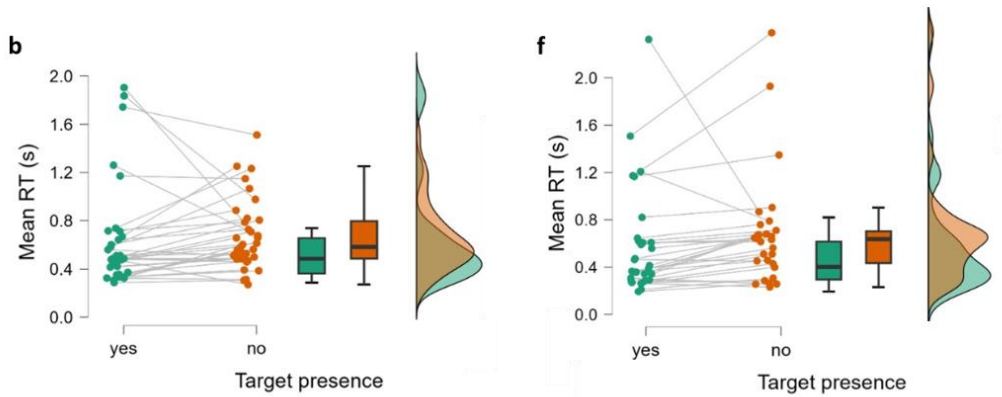
Experiment 1: Target=noun

Experiment 2: Target=verb

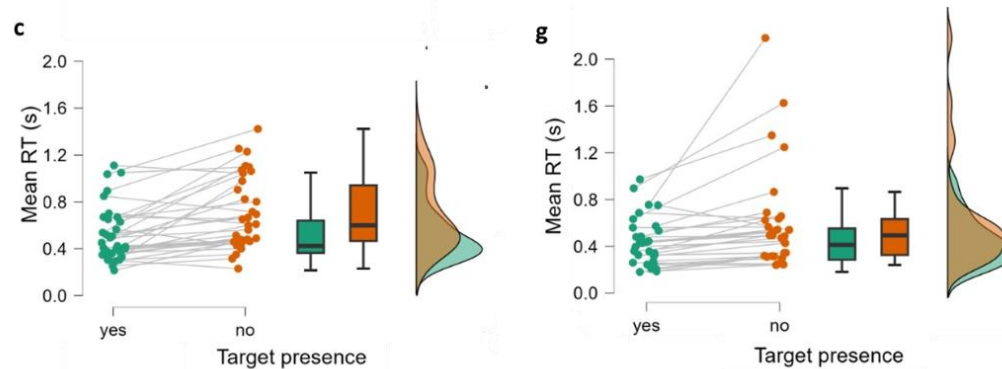
Target presented in Audio modality (*Incongruent movieclips*)



Target presented in Visual modality (*Incongruent movieclips*)



Target presented in both modalities (*Congruent movieclips*)



Total trials

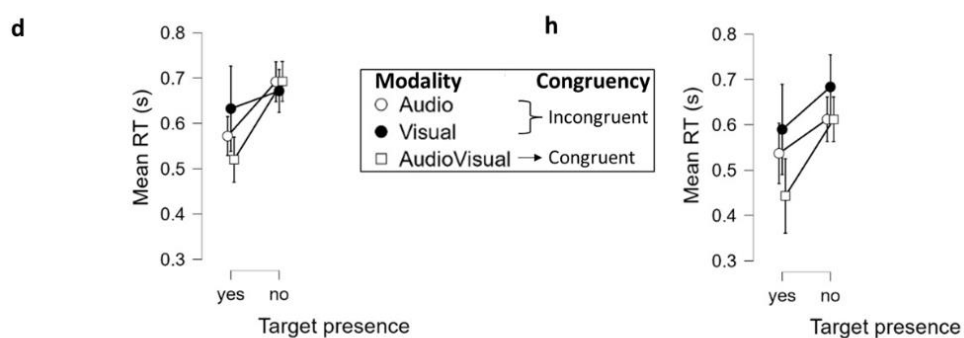
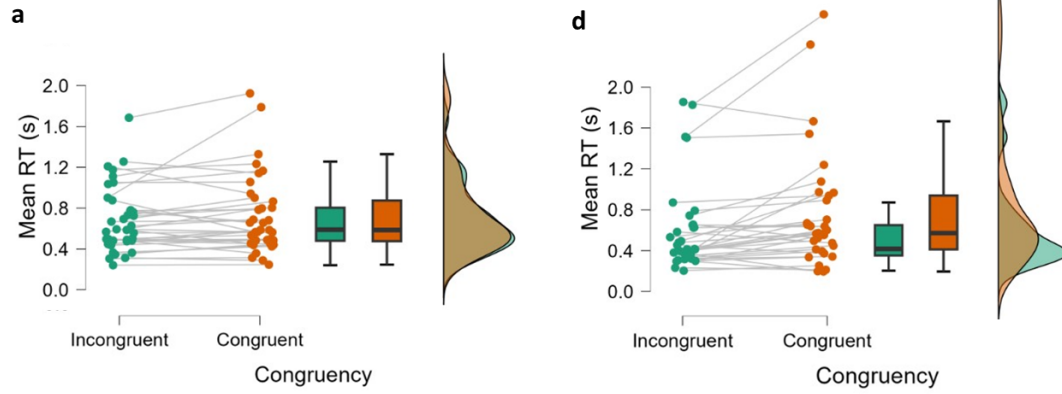


Figure A2. Mean RT scores for target presence and target absence in Experiment 1 and Experiment 2 (only correct answers). Box-and-whisker plots in (a), (b) and (c) represent the interquartile range (IQR) for Experiment 1 and in (e), (f) and (g) the IQR for Experiment 2; central, bold horizontal lines in (a), (b), (c) and (e), (f), (g) represent the medians; white squares, black circles and white circles in (d) and (h) represent the group mean RT scores (Experiment 1: N=36, Experiment 2: N=34) when target or target-related information was presented in the three modality conditions: Audio, Visual, and Audiovisual (Both modalities). Green and orange points represent the mean RT scores of individual participants. Note that range in (d) and (h) is 0.3 to 0.8. a) and e) show mean RT individual scores in target present and target absent incongruent trials when target/target-related information was only heard for Experiment 1 and for Experiment 2, respectively. b) and f) show mean RT individual scores in target present and target absent incongruent trials when target/target-related information was only seen for Experiment 1 and for Experiment 2, respectively. c) and g) show mean RT individual scores in target present and target absent congruent trials (target/target-related information was both heard and seen) for Experiment 1 and for Experiment 2, respectively. d) and h) show mean RT total scores in target present and target absent incongruent trials for Experiment 1 and for Experiment 2, respectively (target/target-related information was either only heard or only seen) vs. congruent trials (target/target-related information was both heard and seen).

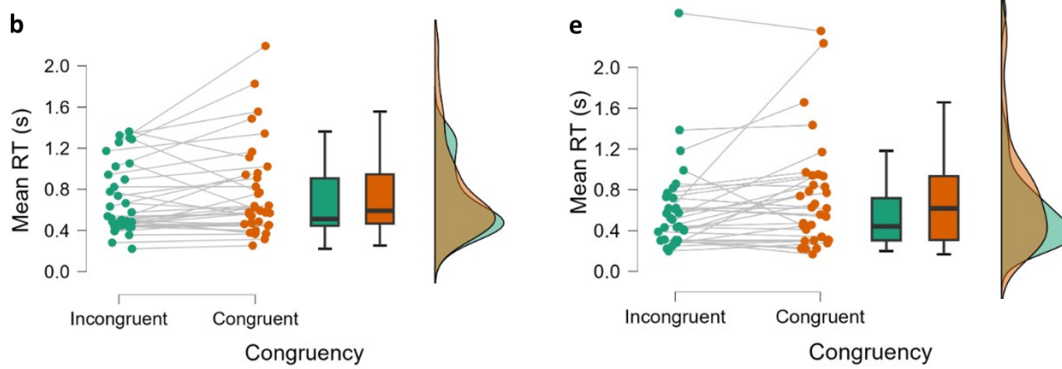
Experiment 1: Target=noun

Experiment 2: Target=verb

Target-related verb



Target-related noun



Total trials

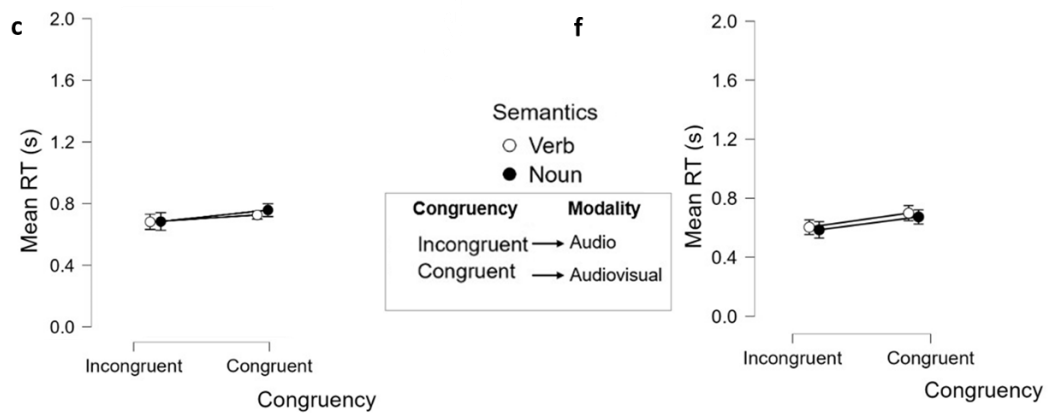


Figure A3. Mean RT scores for incongruent and congruent semantic conditions in target absent trials in Experiment 1 and Experiment 2 (only correct answers). Box-and-whisker plots in (a), (b) represent the interquartile range (IQR) for Experiment 1 and in (d), (e) the IQR for Experiment 2; central, bold horizontal lines in (a), (b) and (d), (e), represent the medians; black circles and white circles in (c) and (f) represent the group mean RT (Experiment 1: $N=36$; Experiment 2: $N=34$). Green and orange points represent the mean RT of individual participants. a) and d) show mean RT individual scores in target absent trials when target-related audio sentences included a verb accompanied by a semantically incongruent visual clip vs. a semantically congruent visual clip for Experiment 1 and for Experiment 2, respectively. b) and e) show mean RT individual scores in target absent trials when target-related audio sentences included a noun accompanied by a semantically incongruent visual clip vs. a semantically congruent visual clip for Experiment 1 and for Experiment 2, respectively. c) and f) show mean RT total scores in incongruent trials for verb vs. noun (audio sentence with a target related verb vs. noun accompanied by a semantically incongruent visual clip) vs. congruent trials in Experiment 1 and in Experiment 2, respectively (audio sentence with a target related verb vs. noun accompanied by a semantically congruent visual clip).