Supplementary material

List of stimuli in Experiment 1

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| --- | --- | --- | --- |
| **Dutch Object words** | **English Translation** | **Dutch Abstract words** | **English Translation** |
| kamer | room | advies | advice |
| straat | street | affaire | affair |
| school | school | aspect | aspect |
| schip | ship | schuld | debt |
| water | water | debuut | debut |
| auto | car | bedrog | cheating |
| tafel | table | excuus | excuse |
| hoofd | head | factor | factor |
| lichaam | body | winst | profit |
| vogel | bird | spel | game |
| stoel | chair | kwestie | question |
| film | film | manier | way |
| boom | tree | maand | month |
| dokter | doctor | motief | motive |
| eekhoorn | squirrel | steun | support |
| ketel | boiler | begin | beginning |
| schild | shield | pardon | pardon |
| hengel | fishing rod | fase | phase |
| honing | honey | pleidooi | plea |
| laars | boot | gerucht | rumor |
| zebra | zebra | verhaal | story |
| tijger | tiger | theorie | theory |
| sneeuw | snow | comfort | comfort |
| pudding | pudding | deugd | virtue |
| dolfijn | dolphin | geluk | happiness |
| haai | shark | gemak | ease |
| foto | photo | hitte | heat |
| bloem | flower | honger | hunger |
| gitaar | guitar | moed | courage |
| papier | paper | troost | consolation |
| trein | train | energie | energy |
| winkel | shop | vrijheid | freedom |
| vliegtuig | plane | roddel | gossip |
| krant | newspaper | vreugde | joy |
| voet | foot | kennis | knowledge |
| vinger | finger | wet | law |
| slang | snake | verlies | loss |
| doos | box | liefde | love |
| citroen | lemon | leed | sorrow |
| snelweg | highway | schok | shock |
| goud | gold | muziek | music |
| varken | pig | mening | opinion |
| schaap | sheep | haat | hate |
| koffer | suitcase | plezier | pleasure |
| matroos | sailor | pijn | pain |
| knuffel | stuffed animal | straf | punishment |
| wortel | carrot | vrede | peace |
| sigaar | cigar | offer | sacrifice |
| lepel | spoon | slaap | sleep |
| walvis | whale | kracht | power |
| draad | thread | domheid | stupidity |
| tomaat | tomato | talent | talent |

List of stimuli Experiment 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Object Words** | **Translation** | **Abstract Words** | **Translation** |
| straat | street | advies | advice |
| school | school | affaire | affair |
| schip | ship | aspect | aspect |
| water | water | schuld | debt |
| auto | car | bedrog | cheating |
| tafel | table | excuus | excuse |
| lichaam | body | factor | factor |
| vogel | bird | winst | profit |
| stoel | chair | kwestie | question |
| film | film | manier | way |
| dokter | doctor | motief | motive |
| eekhoorn | squirrel | steun | support |
| ketel | boiler | pardon | pardon |
| schild | shield | fase | phase |
| hengel | fishing rod | gerucht | rumor |
| honing | honey | verhaal | story |
| laars | boot | theorie | theory |
| sneeuw | snow | comfort | comfort |
| pudding | Pudding | deugd | virtue |
| dolfijn | dolphin | geluk | happiness |
| haai | shark | gemak | ease |
| bloem | flower | moed | courage |
| gitaar | guitar | troost | consolation |
| papier | paper | energie | energy |
| trein | train | vrijheid | freedom |
| vliegtuig | plane | roddels | gossips |
| krant | newspaper | vreugde | joy |
| slangen | snakes | kennis | knowledge |
| doos | box | wet | law |
| citroen | lemon | verlies | loss |
| snelweg | highway | liefde | love |
| goud | gold | schok | shock |
| varken | pig | mening | opinion |
| schaap | sheep | haat | hate |
| koffers | suitcases | plezier | pleasure |
| matroos | sailor | pijn | ache |
| wortel | carrot | straf | punishment |
| sigaar | cigar | vrede | peace |
| lepel | spoon | offer | sacrifice |
| walvis | whale | slaap | sleep |
| draad | thread | kracht | power |
| tomaat | tomato | domheid | stupidity |

List of stimuli in Experiment 3

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Object Words** | **Translation** | **Abstract Words** | **Translation** | **Visual Adjectives** | **Translation** | **Nonvisual Adjectives** | Translation |
| straat | street | advies | advice | bewolkt | cloudy | dapper | brave |
| school | school | affaire | affair | bleek | pale | populair | popular |
| schip | ship | aspect | aspect | bloemrijk | flowery | zacht | soft |
| water | water | schuld | debt | diagonaal | diagonal | wreed | cruel |
| tafel | table | bedrog | cheating | dik | fat | lauw | lukewarm |
| lichaam | body | excuus | excuse | dof | milky | traag | dull |
| vogel | bird | factor | factor | donker | dark | tragisch | tragic |
| stoel | chair | winst | profit | doorzichtig | transparent | grappig | funny |
| film | film | kwestie | question | dun | thin | laf | cowardly |
| dokter | doctor | motief | motive | plat | flat | doof | deaf |
| eekhoorn | squirrel | steun | support | gebogen | bended | welvarend | prosperous |
| ketel | boiler | pardon | pardon | geruit | checkered | zoet | sweet |
| schild | shield | fase | phase | gestreept | striped | gezond | healthy |
| hengel | fishing rod | gerucht | rumor | geel | yellow | luid | loud |
| honing | honey | verhaal | story | glimmend | shiny | nerveus | nervous |
| laars | boot | theorie | theory | gouden | golden | scherp | sharply |
| sneeuw | snow | comfort | comfort | groen | green | geurig | fragrant |
| pudding | Pudding | deugd | virtue | groot | big | stil | quiet |
| dolfijn | dolphin | geluk | happiness | helder | bright | koel | cool |
| haai | shark | gemak | ease | hoekig | angular | ongewoon | unusual |
| bloem | flower | moed | courage | hoog | high | bitter | bitter |
| gitaar | guitar | troost | consolation | kaal | bald | zindelijk | neat |
| papier | paper | energie | energy | reusachtig | huge | warm | hot |
| trein | train | vrijheid | freedom | kleurrijk | colorful | gulzig | greedy |
| vliegtuig | plane | roddel | gossip | kort | short | zorgzaam | considerate |
| krant | newspaper | vreugde | joy | mistig | foggy | gemiddeld | average |
| doos | box | kennis | knowledge | blauw | blue | gruwelijk | atrocious |
| citroen | lemon | wet | law | zwart | black | koud | cold |
| snelweg | highway | verlies | loss | misvormd | deformed | loyaal | loyal |
| goud | gold | liefde | love | opvallend | striking | pittig | salty |
| varken | pig | schok | shock | rechtdoor | straight | gemeen | common |
| schaap | sheep | mening | opinion | rond | around | wanhopig | desperate |
| koffers | suitcases | haat | hate | ruig | rough | irritant | irritating |
| matroos | sailor | plezier | pleasure | scheef | askew | kwaad | evil |
| wortel | carrot | straf | punishment | schoon | clean | hongerig | hungry |
| sigaar | cigar | vrede | peace | smerig | filthy | zuur | acid |
| lepel | spoon | offer | sacrifice | symmetrisch | symmetrically | aandoenlijk | touching |
| walvis | whale | slaap | sleep | verticaal | vertical | uitbundig | exuberant |
| draad | thread | kracht | power | vlekkeloos | stainless | barmhartig | merciful |
| tomaat | tomato | domheid | stupidity | wazig | hazy | sober | sober |

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| **Results of Experiment 1**Random effects: Groups Name Variance Std.Dev. Corr  Word (Intercept) 0.0906687 0.301112  VisualConditionflashes 0.0000217 0.004658 -1.00  Participant (Intercept) 0.2290078 0.478548  VisualConditionflashes 0.0047800 0.069138 -0.68  CorrectAnswervisual 0.0368347 0.191924 -0.39 0.15 Residual 0.7010950 0.837314 Number of obs: 8892, groups: Word, 97; Participant, 50Fixed effects: Estimate Std. Error t value(Intercept) 0.11070 0.08331 1.329VisualConditionflashes 0.13346 0.02798 4.769CorrectAnswervisual -0.33318 0.07166 -4.650VisualConditionflashes:CorrectAnswervisual 0.10717 0.03567 3.004Correlation of Fixed Effects: (Intr) VslCnd CrrctAVslCndtnfls -0.355 CrrctAnswrv -0.515 0.207 VslCndtn:CA 0.126 -0.689 -0.272**Results of Experiment 2** |  |  |  |  |  |  |  |
| Random effects: Groups Name Variance Std.Dev. Corr Word (Intercept) 1.770e-01 0.420660  VisualConditionflashes 4.290e-07 0.000655 1.00 Participant (Intercept) 1.869e-01 0.432354  VisualConditionflashes 1.507e-03 0.038815 1.00 Residual 6.141e-01 0.783632 Number of obs: 6625, groups: Word, 84; Participant, 42Fixed effects: Estimate Std. Error t value(Intercept) -0.05139 0.09509 -0.540VisualConditionflashes 0.24544 0.02797 8.774WordTypevisual -0.09174 0.09577 -0.958VisualConditionflashes:WordTypevisual -0.00533 0.03853 -0.138Correlation of Fixed Effects: (Intr) VslCnd WrdTypVslCndtnfls 0.011 WordTypevsl -0.504 0.138 VslCndtn:WT 0.101 -0.693 -0.198 |  |  |  |  |  |  |  |
| **Results of Experiment 3**Random effects: Groups Name Variance Std.Dev. Corr  Word (Intercept) 0.107119 0.32729  VisualConditionflashes 0.004282 0.06544 -0.22  Outputfile (Intercept) 0.200348 0.44760  VisualConditionflashes 0.006425 0.08016 0.03  WordTypeconcrete 0.033234 0.18230 -0.67 -0.15 Residual 0.671555 0.81948 Number of obs: 6551, groups: Word, 80; Outputfile, 46Fixed effects: Estimate Std. Error t value(Intercept) 0.21359 0.08642 2.471VisualConditionflashes 0.20627 0.03339 6.178WordTypeconcrete -0.51121 0.08311 -6.151VisualConditionflashes:WordTypeconcrete -0.04576 0.04320 -1.059Correlation of Fixed Effects: (Intr) VslCnd WrdTypVslCndtnfls -0.182 WrdTypcncrt -0.599 0.180 VslCndtn:WT 0.147 -0.676 -0.294 |  |  |  |  |  |  |  |