

Decoding abstract and concrete concept representations based on single-trial fMRI data

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Supplementary Materials

Tabel S1 List of triplets. Each row is a triplet, and each block of six triplets is one repetition of an exemplar.

Abstract, Cognition	error	mistake	blunder
	error	slipup	mistake
	mistake	error	blunder
	mistake	slipup	error
	blunder	error	mistake
	slipup	mistake	error
	concept	reflection	notion
	cogitation	notion	reflection
	reflection	cogitation	concept
	notion	concept	cogitation
	concept	cogitation	notion
	notion	reflection	cogitation
	opinion	contention	conviction
	belief	conviction	contention
	conviction	belief	opinion
	contention	opinion	belief
	contention	opinion	conviction
	opinion	contention	belief
dream	delusion	fantasy	
delusion	fantasy	dream	
dream	illusion	delusion	
dream	fantasy	illusion	
fantasy	illusion	dream	
illusion	dream	fantasy	
Abstract, Emotion	mercy	empathy	sympathy
	mercy	sympathy	pity
	sympathy	pity	empathy
	pity	mercy	sympathy
	empathy	sympathy	mercy
	pity	empathy	sympathy

Concrete, Tools

happiness	enjoyment	pleasure
happiness	delight	enjoyment
pleasure	happiness	delight
delight	enjoyment	pleasure
pleasure	delight	enjoyment
happiness	pleasure	delight
sadness	distress	depression
gloom	depression	distress
distress	sadness	depression
depression	gloom	sadness
gloom	sadness	distress
distress	gloom	sadness
dread	fright	trepidation
horror	dread	fright
trepidation	fright	dread
fright	dread	trepidation
dread	trepidation	horror
dread	horror	fright
knife	razorblade	scalpel
scalpel	cutlass	razorblade
knife	razorblade	cutlass
razorblade	knife	scalpel
razorblade	scalpel	knife
scalpel	knife	razorblade
hammer	club	hatchet
hammer	mallet	hatchet
club	hatchet	mallet
club	hammer	hatchet
mallet	club	hammer
hatchet	hammer	club
paintbrush	highlighter	pencil
marker	pencil	highlighter
paintbrush	marker	highlighter
paintbrush	pencil	marker
pencil	marker	paintbrush
pencil	paintbrush	marker
spatula	fork	tablespoon
chopsticks	tablespoon	fork
fork	chopsticks	spatula
tablespoon	fork	chopsticks
chopsticks	spatula	tablespoon
fork	tablespoon	chopsticks

Concrete, Dwellings	house	apartment	flat
	house	condominium	flat
	house	flat	condominium
	apartment	condominium	flat
	flat	condominium	apartment
	condominium	apartment	flat
	<hr/>		
	palace	penthouse	castle
	mansion	castle	penthouse
	castle	palace	mansion
	penthouse	mansion	palace
	palace	mansion	penthouse
	penthouse	castle	palace
	<hr/>		
	stadium	pavilion	coliseum
	pavilion	coliseum	stadium
	theatre	stadium	coliseum
	theatre	coliseum	pavilion
	theatre	pavilion	stadium
	coliseum	stadium	pavilion
	<hr/>		
	silos	barn	shed
	silos	shed	warehouse
	barn	silos	shed
	shed	warehouse	barn
	warehouse	barn	silos
	warehouse	shed	barn

*Logistic regression classifier*

Logistic regression estimates the likelihood  $P(Y/X)$  of each label  $Y$  from the voxel values  $X = \{x_{i1}, \dots, x_{iV}\}$  using the model

$$P(Y = 1|X) = \frac{1}{1 + \exp(w_0 + \sum_{i=1}^V w_i x_i)}$$

Where  $W = \{w_1, w_2, \dots, w_V\}$  are the weights (Bishop 2006).

Reference

Bishop CM. 2006. Pattern recognition and machine learning. New York: Springer.