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| **YES** | Abstract |
| Barbarotto, R., Laiacona, M., Macchi, V., & Capitani, E. (2002). Picture reality decision, semantic categories and gender: A new set of pictures, with norms and an experimental study. *Neuropsychologia, 40,* 1637–1653. doi:10.1016/S0028-3932(02)00029-5 [CrossRef](http://dx.doi.org/10.1016/S0028-3932(02)00029-5) | We present a new corpus of 80 pictures of unreal objects, useful for a controlled assessment of object reality decision. The new pictures were assembled from parts of the Snodgrass and Vanderwart [J. Exp. Psychol., Hum. Learning Memory 6; 1980: 174] set and were devised for the purpose of contrasting natural categories (animals, fruits and vegetables), artefacts (tools, vehicles and furniture), body parts and musical instruments. We examined 140 normal subjects in a free-choice and a multiple-choice object decision task, assembled with 80 pictures of real objects and above 80 new pictures of unreal objects in order to obtain a difficulty index for each picture. We found that the tasks were more difficult with pictures representing natural entities than with pictures of artefacts.  We found a gender by category interaction, with a female superiority with some natural categories (fruits and vegetables, but not animals), and a male advantage with artefacts. On this basis, the difficulty index we calculated for each picture is separately reported for males and females. We discuss the possible origin of the gender effect, which has been found with the same categories in other tasks and has a counterpart in the different familiarity of the stimuli for males and females. In particular, we contrast explanations based on socially determined gender differences with accounts based on evolutionary pressures. We further comment on the relationship between data from normal subjects and the domain-specific account of semantic category dissociations observed in brain-damaged patients. |
| Barbarotto R, Capitani E, Laiacona M (2001) Living musical instruments and inanimate body parts. Neuropsychologia 39: 406–414.[View Article](http://dx.doi.org/10.1016/S0028-3932(00)00128-7) | In the literature about category effects in semantic memory, body parts and musical instruments are often considered atypical, because in cases with a disproportionate impairment of living categories body parts are relatively spared, while musical instruments are often severely defective. In this study the performance of 57 subjects affected by diseases generally associated with lexical-semantic impairment, for the most part Alzheimer's disease and other forms of cortical degeneration, but also herpetic encephalitis and traumatic brain damage are analyzed. The subjects were given a picture naming task tapping eight categories: three living categories (animals, fruits and vegetables) and three non-living categories (tools, furniture and vehicles), plus body parts and musical instruments. On a preliminary analysis at the group level, body parts were the least impaired category and musical instruments the most severely impaired, the six living and non-living categories being intermediate. However, these differences disappeared after covariance for lexical frequency, name agreement and age of acquisition. The relationship between living categories, non-living categories, musical instruments and body parts was investigated by means of a Lisrel model of Confirmatory Factor Analysis. Two latent variables related to living and non-living categories respectively were defined, and it was found that both body parts and musical instruments were significantly related only with non-living categories. The results showed that the definition of the latent variable expressing the substrate of non-living categories was less satisfactory than that expressing the living categories. On this basis, the conclusions of this study appear statistically definite but their psychological interpretation is less straightforward. |
| Laiacona M, Barbarotto R, Trivelli C, Capitani E (1993) Disossociazioni semantiche intercategoriali: descrizione di una batteria standrdizzata e dati normativi Archivio di Psicologia. Neurologia e Psichiatria 54: 209–248.[View Article](http://www.crossref.org/guestquery/?auth2=Laiacona&atitle2=Disossociazioni+semantiche+intercategoriali%3A+descrizione+di+una+batteria+standrdizzata+e+dati+normativi+Archivio+di+Psicologia.&auth=Laiacona&atitle=Disossociazioni+semantiche+intercategoriali%3A+descrizione+di+una+batteria+standrdizzata+e+dati+normativi+Archivio+di+Psicologia.) |  |
| Moreno-Martínez FJ, Tallón-Barranco A, Frank-Garcia A (2007) Enfermedad de Alzheimer, deterioro categorial y variables relevantes en la denominación de objetos. Revista de Neurología 44: 129–133.[View Article](http://www.crossref.org/guestquery/?auth2=Moreno-Mart%EDnez&atitle2=Enfermedad+de+Alzheimer%2C+deterioro+categorial+y+variables+relevantes+en+la+denominaci%F3n+de+objetos.&auth=Moreno-Mart%EDnez&atitle=Enfermedad+de+Alzheimer%2C+deterioro+categorial+y+variables+relevantes+en+la+denominaci%F3n+de+objetos.) |  |
| Moreno FJ, Cañamón S (2005) Presentación y resultados preliminares de la Batería Nombela (I): Un nuevo instrumento para evaluar el deterioro semántico categorial . Revista de Psicopatología y Psicología Clínica 10: 205–219.[View Article](http://www.crossref.org/guestquery/?auth2=Moreno&atitle2=Presentaci%F3n+y+resultados+preliminares+de+la+Bater%EDa+Nombela+%28I%29%3A+Un+nuevo+instrumento+para+evaluar+el+deterioro+sem%E1ntico+categorial+.&auth=Moreno&atitle=Presentaci%F3n+y+resultados+preliminares+de+la+Bater%EDa+Nombela+%28I%29%3A+Un+nuevo+instrumento+para+evaluar+el+deterioro+sem%E1ntico+categorial+.) |  |
| McKenna P (1998) The category-specific Names Test Hove: Psychological Press. |  |
| Rosch EH, Mervis CB (1975) Family Resemblances: Studies in the Internal Structure of Categories. Cognitive Psychology 7: 573–605.[View Article](http://dx.doi.org/10.1016/0010-0285(73)90017-0) | The hypothesis of the study was that the domains of color and form are structured into nonarbitrary, semantic categories which develop around perceptually salient “natural prototypes.” Categories which reflected such an organization (where the presumed natural prototypes were central tendencies of the categories) and categories which violated the organization (natural prototypes peripheral) were taught to a total of 162 members of a Stone Age culture which did not initially have hue or geometric-form concepts. In both domains, the presumed “natural” categories were consistently easier to learn than the “distorted” categories. Even when not central, natural prototype stimuli tended to be more rapidly learned and more often chosen as the most typical example of the category than were other stimuli. Implications for general differences between natural categories and the artificial categories of concept formation research were discussed. |
| Rosch EH (1973) Natural Categories. Cognitive Psychology 4: 328–350.[View Article](http://dx.doi.org/10.1016/0010-0285(73)90017-0) | The hypothesis of the study was that the domains of color and form are structured into nonarbitrary, semantic categories which develop around perceptually salient “natural prototypes.” Categories which reflected such an organization (where the presumed natural prototypes were central tendencies of the categories) and categories which violated the organization (natural prototypes peripheral) were taught to a total of 162 members of a Stone Age culture which did not initially have hue or geometric-form concepts. In both domains, the presumed “natural” categories were consistently easier to learn than the “distorted” categories. Even when not central, natural prototype stimuli tended to be more rapidly learned and more often chosen as the most typical example of the category than were other stimuli. Implications for general differences between natural categories and the artificial categories of concept formation research were discussed. |
| Op De Beeck, H., & Wagemans, J. (2001). Visual object categorisation at distinct levels of abstraction: A new stimulus set. *Perception, 30*(11), 1337–1361. [CrossRef](http://dx.doi.org/10.1068/p3120) | We designed a new stimulus set with 269 line drawings of everyday artifacts and animals. The stimulus set contains several typical exemplars from a sample of 25 basic-level categories. We determined to what extent these stimuli were named at the basic level and at a more subordinate level. An additional experiment showed the validity of this calibration: typicality ratings were correlated significantly with the level of naming. In a final experiment we found that this effect depends largely on the global configuration of a stimulus as it was still apparent with degraded images obtained by locally shifting small fragments of the drawings. |
| Lachman, R., Shaffer, J. P., & Hennrikus, D. (1974). Language and cognition: Effects of stimulus codability, name-word frequency, and age of acquisition on lexical reaction time. *Journal of Verbal Learning & Verbal Behavior, 13*, 613–625. [CrossRef](http://dx.doi.org/10.1016/S0022-5371(74)80049-6) | Intersubject agreement on names (uncertainty) for pictures indexes codability of visual reality in a language community. The time it takes to access permanent memory and retrieve name-words for visual objects was measured by picture naming reaction time (RT). RT is influenced by four fundamental variables: the uncertainty-codability of the display, the frequency and age of acquisition of the lexical response, and the interval between occasions of picture naming; uncertainty, frequency, and acquisition age covary. An eight-variable regression model mapped the main processes in lexical retrieval. Effects of major variables are independent. RT increases with uncertainty in two nonlinear segments, with apparent algorithmic processing at low uncertainty and heuristic at high. Individual differences reside primarily in RT level (intercepts) and minimally in functional relationships with independent variables. |
| Moreno-Martínez FJ, Montoro PR, Laws KR (2011) A set of high quality colour images with Spanish norms for seven relevant psycholinguistic variables. Aging, Neuropsychology & Cognition 18: 293–327.[View Article](http://dx.doi.org/10.1080/13825585.2010.540849) | This paper presents a new corpus of 140 high quality colour images belonging to 14 subcategories and covering a range of naming difficulty. One hundred and six Spanish speakers named the items and provided data for several psycholinguistic variables: age of acquisition, familiarity, manipulability, name agreement, typicality and visual complexity. Furthermore, we also present lexical frequency data derived internet search hits. Apart from the large number of variables evaluated, these stimuli present an important advantage with respect to other comparable image corpora in so far as naming performance in healthy individuals is less prone to ceiling effect problems. Reliability and validity indexes showed that our items display similar psycholinguistic characteristics to those of other corpora. In sum, this set of ecologically valid stimuli provides a useful tool for scientists engaged in cognitive and neuroscience-based research. |
| Pérez MA, Navalón C (2003) Normas españolas de 290 nuevos dibujos: acuerdo en la denominación, concordancia de la imagen, familiaridad, complejidad visual y variabilidad de la imagen. Psicológica 24: 215–241.[View Article](http://www.crossref.org/guestquery/?auth2=P%E9rez&atitle2=Normas+espa%F1olas+de+290+nuevos+dibujos%3A+acuerdo+en+la+denominaci%F3n%2C+concordancia+de+la+imagen%2C+familiaridad%2C+complejidad+visual+y+variabilidad+de+la+imagen.&auth=P%E9rez&atitle=Normas+espa%F1olas+de+290+nuevos+dibujos%3A+acuerdo+en+la+denominaci%F3n%2C+concordancia+de+la+imagen%2C+familiaridad%2C+complejidad+visual+y+variabilidad+de+la+imagen.) |  |
| Moreno-Martínez FJ, Peraita H (2007) Un nuevo conjunto de ítems para la evaluación de la disociación ser vivo/ser no vivo con normas obtenidas de ancianos sanos españoles. Psicológica 28: 1–20.[View Article](http://www.crossref.org/guestquery/?auth2=Moreno-Mart%EDnez&atitle2=Un+nuevo+conjunto+de+%EDtems+para+la+evaluaci%F3n+de+la+disociaci%F3n+ser+vivo%2Fser+no+vivo+con+normas+obtenidas+de+ancianos+sanos+espa%F1oles.&auth=Moreno-Mart%EDnez&atitle=Un+nuevo+conjunto+de+%EDtems+para+la+evaluaci%F3n+de+la+disociaci%F3n+ser+vivo%2Fser+no+vivo+con+normas+obtenidas+de+ancianos+sanos+espa%F1oles.) |  |
| Adlington RL, Laws KR, Gale TM (2008) The Hatfield Image Test (HIT): A new picture test and norms for experimental and clinical use. Journal of Clinical & Experimental Neuropsychology 31: 731–753.[View Article](http://dx.doi.org/10.1080/13803390802488103) | We present a new corpus of 147 high-quality photographic colour images (the Hatfield Image Test: HIT). Existing sets of pictorial stimuli tend to be line drawn, contain many items that are readily identifiable by healthy participants, and, therefore, have an inherent tendency towards ceiling effects in the normal population. The broad range of item difficulty and range of semantic subcategories in the HIT permits researchers to select stimuli of appropriate difficulty as required. We present naming data from 152 healthy participants. Additionally, we present mean ratings for each item on several widely used psycholinguistic variables: age of acquisition, colour diagnosticity, familiarity, name agreement (and the *H* statistic), visual complexity, and word frequency. These stimuli provide a useful corpus for experimental and clinical researchers. |
| Viggiano, M. P., Vannucci, M., & Righi, S. (2004). A new standardized set of ecological pictures for experimental and clinical research on visual object processing. *Cortex, 40,* 491–509. doi:10.1016/S0010-9452(08)70142-4 [CrossRef](http://dx.doi.org/10.1016/S0010-9452(08)70142-4) | A new set of 174 pictures in black-and-white, coloured and spatially filtered versions, taken from photographs of real objects belonging to different semantic categories, was realised for experimental and clinical research on visual object processing. Two samples, one of English speakers and one of Italian speakers, were tested in order to provide the normative data for each picture, in both black-and-white and coloured versions, in relation to familiarity, visual complexity and name agreement. |
| Severens, E., Van Lommel, S., Ratinckx, E., & Hartsuiker, R. J. (2005). Timed picture naming norms for 590 pictures in Dutch. *Acta Psychologica, 119,* 159–187. doi:10.1016/j.actpsy.2005.01.002 [CrossRef](http://dx.doi.org/10.1016/j.actpsy.2005.01.002) | The present study presents timed norms for 590 pictures in Belgian Dutch. We determined name agreement and response latencies. Furthermore, we assessed which factors influenced the naming latencies of the pictures. It appeared that age-of-acquisition, the H-statistic (an index of name agreement), and the number of syllables of the dominant response were significant predictors of the naming latencies. These results are discussed in comparison with previous findings. |
| Magnié, M. N., Besson, M., Poncet, M., & Dolisi, C. (2003). The Snodgrass and Vanderwart set revisited: Norms for object manipulability and for pictorial ambiguity of objects, chimeric objects, and nonobjects. *Journal of Clinical and Experimental Neuropsychology, 25,* 521–560. doi:10.1076/jcen.25.4.521.13873 [CrossRef](http://dx.doi.org/10.1076/jcen.25.4.521.13873) | In this paper, we propose a standardized set of 480 black-and-white line drawings, half meaningful and half meaningless. Meaningful pictures represent a common object, and were selected from the Snodgrass and Vanderwart set (1980). Meaningless pictures include 120 chimeric objects (made up of two halves of real objects) and 120 nonobjects, that were constructed from the meaningful pictures while controlling for visual complexity. We report the results of two experiments designed to standardize the revisited Snodgrass and Vanderwart set along two important dimensions for picture processing: object manipulability (Experiment 1) and pictorial ambiguity (Experiment 2). The relevance of these dimensions is discussed. Experiment 1 permit us to sort objects into four manipulability categories (i.e., the ease and distinctiveness with which use of the object can be mimed) and to propose a manipulability index. This experiment provides additional evidence for a partial overlap in the dichotomy between man-made objects and living things, on the one hand, and manipulable and unmanipulable objects, on the other hand. In Experiment 2, a pictorial ambiguity index was computed for meaningful and meaningless pictures. The results of this experiment point the distinction between chimeric objects and nonobjects showing that chimeric objects are more complex to process than nonobjects and objects. This standardized set of pictures provides a database and an hopefully useful tool for research in cognitive neuroscience. |
| Brainard, D. H. (1997). The psychophysics toolbox. *Spatial Vision, 10,* 433–436. doi:10.1163/156856897X00357 [CrossRef](http://dx.doi.org/10.1163/156856897X00357) | The Psychophysics Toolbox is a software package that supports visual psychophysics. Its routines provide an interface between a high-level interpreted language (MATLAB on the Macintosh) and the video display hardware. A set of example programs is included with the Toolbox distribution. |
| Funnell E, Sheridan J (1992) Categories of knowledge: Unfamiliar aspects of living and nonliving things. Cognitive Neuropsychology 9: 135–153.[View Article](http://dx.doi.org/10.1037/0278-7393.24.2.515) | Previous research on the effects of age of acquisition on lexical processing has relied on adult estimates of the age at which children learn words. The authors report 2 experiments in which effects of age of acquisition on lexical retrieval are demonstrated using real age-of-acquisition norms. In Experiment 1, real age of acquisition emerged as a powerful predictor of adult object-naming speed. There were also significant effects of visual complexity, word frequency, and name agreement. Similar results were obtained in reanalyses of data from 2 other studies of object naming. In Experiment 2, real age of acquisition affected immediate but not delayed object-naming speed. The authors conclude that age-of-acquisition effects are real and suggest that age of acquisition influences the speed with which spoken word forms can be retrieved from the phonological lexicon. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| **MAYBE** |  |
| Barry, C., Morrison, C. M., & Ellis, A. W. (1997). Naming the Snodgrass and Vanderwart pictures: Effect of age of acquisition, frequency, and name agreement. *Quarterly Journal of Experimental Psychology, 50A,* 560–585. doi:10.1080/783663595 |  |
| Bonin, P., Chalard, M., Méot, A., & Fayol, M. (2002). The determinants of spoken and written picture naming latencies. *British Journal of Psychology, 93,* 89–114. doi:10.1348/000712602162463 [CrossRef](http://dx.doi.org/10.1348/000712602162463) | The influence of nine variables on the latencies to write down or to speak aloud the names of pictures taken from Snodgrass and Vanderwart (1980) was investigated in French adults. The major determinants of both written and spoken picture naming latencies were image variability, image agreement and age of acquisition. To a lesser extent, name agreement was also found to have an impact in both production modes. The implications of the findings for theoretical views of both spoken and written picture naming are discussed. |
| Ellis, A. W., & Morrison, C. M. (1998). Real age-of-acquisition effects in lexical retrieval. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 24,* 515–523. doi:10.1037/0278-7393.24.2.515 [CrossRef](http://dx.doi.org/10.1037/0278-7393.24.2.515) |  |
| Greeno, J. G. (1994). Gibson’s affordances. *Psychological Review, 101,* 336–342. doi:10.1037/0033-295X.101.2.336 [CrossRef](http://dx.doi.org/10.1037/0033-295X.101.2.336) | Previous research on the effects of age of acquisition on lexical processing has relied on adult estimates of the age at which children learn words. The authors report 2 experiments in which effects of age of acquisition on lexical retrieval are demonstrated using real age-of-acquisition norms. In Experiment 1, real age of acquisition emerged as a powerful predictor of adult object-naming speed. There were also significant effects of visual complexity, word frequency, and name agreement. Similar results were obtained in reanalyses of data from 2 other studies of object naming. In Experiment 2, real age of acquisition affected immediate but not delayed object-naming speed. The authors conclude that age-of-acquisition effects are real and suggest that age of acquisition influences the speed with which spoken word forms can be retrieved from the phonological lexicon. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Hannah, S. D., & Brooks, L. R. (2009). Featuring familiarity: How a familiar feature instantiation influences categorization. *Canadian Journal of Experimental Psychology, 63,* 263–275. doi:10.1037/a0017919 | We demonstrate that a familiar looking feature can influence categorization through 2 different routes, depending on whether a person is reliant on abstract feature representations or on concrete feature representations. In 2 experiments, trained participants categorized new category members in a 3-step procedure: Participants made an initial categorization, described the rule-consistent features indicated by the experimenter, and then recategorized the item. Critical was what happened on the second categorization after participants initially categorized an item based on a familiar, but misleading, feature. Participants who were reliant on abstract features most commonly reversed themselves after the rule-consistent features were pointed out, suggesting that the familiar feature had biased attention. Participants who were reliant on concrete feature representations, however, most commonly persisted with the initial response as if the familiar feature were more important than its rivals—the familiar feature biased decision making. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Bradley, M. M., Cuthbert, B. N., & Lang, P. J. (1996). Picture media and emotion: Effects of a sustained affective context. *Psychophysiology, 33*, 662–670. [CrossRef](http://dx.doi.org/10.1111/j.1469-8986.1996.tb02362.x) | Pleasant, neutral, or unpleasant pictures were presented in a continuous series, and the effects of repetitive exposure to pictures of the same affective valence were assessed in somatic (corrugator electromyographic [EMG] activity) and visceral (heart rate and skin conductance) systems. Probe stimuli (startle or reaction time probes) were presented to index emotional and attentional concomitants of processing. Affective discrimination was maintained across time in all response systems, and sensitization was found for the corrugator EMG response. Responses to reaction time probes indexed differences in attentional allocation as a function of cognitive and affective variables in this paradigm. Taken together, the data suggest that presentation of a series of affective pictures of similar valence produces emotional reactions that are either maintained or sensitized across the temporal intervals used here but that do not habituate. |
| Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: The Self-Assessment Manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry, 25*, 49–59. [CrossRef](http://dx.doi.org/10.1016/0005-7916(94)90063-9) | The Self-Assessment Manikin (SAM) is a non-verbal pictorial assessment technique that directly measures the pleasure, arousal, and dominance associated with a person's affective reaction to a wide variety of stimuli. In this experiment, we compare reports of affective experience obtained using SAM, which requires only three simple judgments, to the Semantic Differential scale devised by Mehrabian and Russell (An approach to environmental psychology, 1974) which requires 18 different ratings. Subjective reports were measured to a series of pictures that varied in both affective valence and intensity. Correlations across the two rating methods were high both for reports of experienced pleasure and felt arousal. Differences obtained in the dominance dimension of the two instruments suggest that SAM may better track the personal response to an affective stimulus. SAM is an inexpensive, easy method for quickly assessing reports of affective response in many contexts. |
| Brosch, T., Sander, D., & Scherer, K. R. (2007). That baby caught my eye…Attention capture by infant faces. *Emotion, 7*, 685–689. [CrossRef](http://dx.doi.org/10.1037/1528-3542.7.3.685) | An alternative to the view that during evolution the human brain became specialized to preferentially attend to threat-related stimuli is to assume that all classes of stimuli that have high biological significance are prioritized by the attention system. Newborns are highly biologically relevant stimuli for members of a species, as their survival is important for reproductive success. The authors examined whether the *Kindchenschema* (baby schema) as described by Lorenz (1943) captures attention in the dot probe task. The results confirm attentional capture by photos of human infants presented to the left visual field, suggesting right hemisphere advantage. The magnitude of the attentional modulation was highly correlated with subjective arousal ratings of the photos. The findings show that biologically significant positive stimuli are prioritized by the attention system. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Gross, J., & Levenson, R. W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology, 64*, 970–986. [CrossRef](http://dx.doi.org/10.1037/0022-3514.64.6.970) | Examined the effects of emotional suppression, a form of emotion regulation defined as the conscious inhibition of emotional expressive behavior while emotionally aroused. Ss (43 men and 42 women) watched a short disgust-eliciting film while their behavioral, physiological, and subjective responses were recorded. Ss were told to watch the film (no suppression conditions) or to watch the film while behaving "in such a way that a person watching you would not know you were feeling anything" (suppression condition). Suppression reduced expressive behavior and produced a mixed physiological state characterized by decreased somatic activity and decreased heart rate, along with increased blinking and indications of increased sympathetic nervous system activity (in other cardiovascular measures and in electrodermal responding). Suppression had no impact on the subjective experience of emotion. There were no sex differences in the effects of suppression. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Lang, P. J., Greenwald, M. K., Bradley, M. M., & Hamm, A. O. (1993). Looking at pictures: Affective, facial, visceral, and behavioral reactions. *Psychophysiology, 30*, 261–273. [CrossRef](http://dx.doi.org/10.1111/j.1469-8986.1993.tb03352.x) | Colored photographic pictures that varied widely across the affective dimensions of valence (pleasant-unpleasant) and arousal (excited-calm) were each viewed for a 6-s period while facial electromyographic (zygomatic and corrugator muscle activity) and visceral (heart rate and skin conductance) reactions were measured. Judgments relating to pleasure, arousal, interest, and emotional state were measured, as was choice viewing time. Significant covariation was obtained between (a) facial expression and affective valence judgments and (b) skin conductance magnitude and arousal ratings. Interest ratings and viewing time were also associated with arousal. Although differences due to the subject's gender and cognitive style were obtained, affective responses were largely independent of the personality factors investigated. Response specificity, particularly facial expressiveness, supported the view that specific affects have unique patterns of reactivity. The consistency of the dimensional relationships between evaluative judgments (i.e., pleasure and arousal) and physiological response, however, emphasizes that emotion is fundamentally organized by these motivational parameters. |
| Osgood, C. E. (1969). On the whys and wherefores of E, P, and A. *Journal of Personality and Social Psychology, 12*, 194–199. [CrossRef](http://dx.doi.org/10.1037/h0027715) | Miron's comments on J. Kuusinen's paper (see 43:(10) raise a number of critical questions about semantic differential technique and the theory of meaning which lies behind it. The present author responds that semantic differential technique ordinarily measures certain affective features of total meaning, closely related to the dimensions of emotion or feeling, which appear to be universal in the human species. Semantic differential technique highlights these affective features at the expense of other semantic features more familiar to linguists because it forces most qualifier scales to be used metaphorically with most concepts, and the rule seems to be that metaphorically used scales rotate toward those affective dimensions on which they have their highest loadings. This is simultaneously the reason why the semantic differential technique is not a general procedure for discovering semantic features, even though evaluation, potency, and activity (E-P-A) are very significant features of human meaning systems. As to theory, the author concludes that although the E-P-A features of meaning have a many-to-one relation to significates (as must any subset of features), the representational of mediation behavior theory as wholes do not. The differences that remain seem to be matters of preference in metaphysics. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Smith, J. C., Bradley, M. M., & Lang, P. J. (2005). State anxiety and affective physiology: Effects of sustained exposure to affective pictures. *Biological Psychology, 69*, 247–260. [CrossRef](http://dx.doi.org/10.1016/j.biopsycho.2004.09.001) | Effects of sustained exposure to emotional stimuli on affective reactions and their recovery were examined to determine whether increasing exposure to a specific emotional content (e.g., unpleasant) cumulatively affects physiological responses; and whether motivational activation persists following sustained exposure. Participants viewed pleasant, neutral, and unpleasant IAPS pictures, presented in blocks separated by an inter-block interval. With increasing exposure to unpleasant pictures, startle magnitude showed greater potentiation, and corrugator EMG activity increased. Both affective startle and corrugator modulation persisted following exposure to unpleasant pictures. The cumulative effects of sustained exposure to unpleasant pictures were enhanced for those reporting higher state anxiety, consistent with the hypothesis that sustained aversive exposure leads to increased defensive activation. These findings suggest sustained exposure to unpleasant pictures may induce a short-term mood state, and may be a useful paradigm to study individuals who vary in symptoms of anxiety. |
| Smith, C., & Ellsworth, P. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology, 48*, 813–838. [CrossRef](http://dx.doi.org/10.1037/0022-3514.48.4.813) | Reviews reasons why the 2 emotional dimensions of pleasantness and arousal are the only ones found consistently across studies. Two theories of emotions by I. Roseman (1984) and K. R. Sherer (see record [1984-19281-001](http://psycnet.apa.org/index.cfm?fa=search.displayRecord&uid=1984-19281-001)) are integrated with the review to develop a model to differentiate emotional experience. This model was tested in a within-Ss design with 16 undergraduates who were asked to recall past experiences associated with each of 15 emotions and rate them along the 2 proposed dimensions. Six orthogonal dimensions—pleasantness, anticipated effort, certainty, attentional activity, self–other responsibility/control, and situational control—were identified. The emotions varied systematically along these dimensions, indicating a strong relationship between the appraisal of circumstances and emotional state. The strength of this relationship was demonstrated in a discriminant analysis in which the 15 emotions were correctly predicted over 40% of the time on the basis of the corresponding patterns of cognitive appraisal. It is suggested that if it is known how an individual sees his/her environment, it is easier to identify that individual's emotional state; conversely, if it is known what an individual is feeling, much can be deduced about how that individual is interpreting his/her circumstances. (59 ref) (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Gernsbacher, M. A. (1984). Resolving 20 years of inconsistent interactions between lexical familiarity and orthography, concreteness, and polysemy. *Journal of Experimental Psychology: General, 113*, 256–281. [CrossRef](http://dx.doi.org/10.1037/0096-3445.113.2.256) | Word recognition studies conducted over the past 2 decades manipulated lexical familiarity by presenting words of high vs low printed frequency, and most reported an interaction between printed frequency and one of several second variables, namely, orthographic regularity, semantic concreteness, or polysemy. However, the direction of these interactions was inconsistent from study to study. Six new experiments clarify these discordant results. Exps I and II, conducted with 89 college students, demonstrate that words of the same low printed frequency are not always equally familiar to Ss. Instead, Ss' ratings of experiential familiarity suggest that many of the low-printed-frequency words used in prior studies varied along this dimension. Four lexical decision experiments, conducted with 78 undergraduates, reexamined the prior findings by orthogonally manipulating lexical familiarity, as assessed by experiential familiarity ratings, with bigram frequency, semantic concreteness, and number of meanings. Results suggest that of these variables, only experiential familiarity reliably affects word recognition latencies. This in turn suggests that previous inconsistent findings were due to confounding experiential familiarity with a second variable. (68 ref) (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Gordon, B. (1985). Subjective frequency and the lexical decision latency function: Implications for mechanisms of lexical access. *Journal of Memory and Language, 24*, 631–645. [CrossRef](http://dx.doi.org/10.1016/0749-596X(85)90050-6) | Subjective word frequencies were obtained in order to determine the relationship between frequency and lexical decision times across a wide range of frequencies. The subjective ratings proved to be reliable across subject groups, even though they showed somewhat paradoxical range effects. While there were good correlations between the subjective and standard objective frequency counts across the entire frequency range, there was relatively little correlation between them for low-frequency words. Nevertheless, the subjective ratings accounted for more of the decision time variance for these low-frequency words than did the objective counts. Subjective frequency was therefore felt to be more appropriate for determining the frequency-latency relationship in lexical decision, particularly for low-frequency words. Using these ratings to supplement frequency counts, together with data from several lexical decision experiments, shows that the relationship between decision time and frequency is nonlinear, asymptoting for the highest frequencies, but with rapidly increasing reaction times for lower ones. B. Gordon's (1981, Lexical Access and Lexical Decision: Mechanisms of Frequency Sensitivity. Unpublished doctoral dissertation, Johns Hopkins University; 1983, Journal of Verbal Learning and Verbal Behavior, **22**, 24–44) resonance model of lexical access can directly account for this relationship, but logogen and sequential search models require further elaboration to do so. |
| Vitkovitch, M., & Tyrell, L. (1995). Sources of disagreement in object naming. *Quarterly Journal of Experimental Psychology, 48A*, 822–848. |  |
| Tranel D, Logan CG, Randall JF, Damasio AR (1997) Explaining category-related effects in the retrieval of conceptual and lexical knowledge for concrete entities: operationalization and analysis of factors. Neuropsychologia 35: 1329–1339.[View Article](http://dx.doi.org/10.1016/S0028-3932(97)00086-9) | Category-related effects in the retrieval of conceptual and lexical knowledge for concrete entities have been well documented in lesion studies, and also with functional imaging and electrophysiological approaches. For example, brain-damaged subjects may be impaired in the ability to recognize or to name animals but not tools, or the opposite pattern may obtain. One reason for these dissociations is that different patterns of defects tend to be caused by distinct lesion profiles, suggesting a relative tendency for certain neural systems to be involved in category-related knowledge. But we and others have also hypothesized that a variety of traits of concrete entities co-determine category-related dissociations. Such traits (‘factors’) include homomorphy (similarity of form), familiarity, value to perceiver, manipulability, characteristic motion, characteristic sensory modality of transaction (vision, touch, hearing), and typical age of acquisition. It is our view that the mix of factors relative to different conceptual categories plays a key role in the neuroanatomical distribution of records for those different categories, and is thus behind the systematic correlations between certain retrieval defects and damage to certain neural systems [12, 52].  In this study, we operationalized these factors and analyzed their intercorrelations. Stimuli were slides of 215 items from the conceptual categories of animals, fruits/vegetables, tools/utensils, vehicles, and musical instruments. The factors were operationalized on the basis of ratings obtained from 227 normal control subjects and on the basis of computer analyses of the digitized outlines of the stimuli. Principal components analysis revealed that 81% of the variability across items could be accounted for by three components: Component 1 (practically useful, common items): high value to perceiver, tactile mode of transaction, high familiarity, low age of acquisition; Component 2 (homomorphic, non-manipulable items): high homomorphy, low characteristic motion and manipulability; Component 3 (items with characteristic sound): hearing mode of transaction, highly distinctive sounds. In another analysis, we found that the categories of animals versus tools/utensils differed significantly on the factors of homomorphy, familiarity, value, manipulability, characteristic motion, and touch.  The factor structure we identified in this study may help explain category-related performance defects in brain-damaged subjects. The results lend support to our proposal that systematic differences in physical characteristics and contextual specification of concrete entities constitute a driving force behind the regionalization of neural systems related to the acquisition and retrieval of conceptual and lexical knowledge. |
| Rosch EH, Simpson C, Miller RS (1976) Structural Bases of Typicality Effects. Journal of Experimental Psychology: Human Perception and Performance 2: 491–502.[View Article](http://dx.doi.org/10.1016/0010-0285(73)90017-0) | The hypothesis of the study was that the domains of color and form are structured into nonarbitrary, semantic categories which develop around perceptually salient “natural prototypes.” Categories which reflected such an organization (where the presumed natural prototypes were central tendencies of the categories) and categories which violated the organization (natural prototypes peripheral) were taught to a total of 162 members of a Stone Age culture which did not initially have hue or geometric-form concepts. In both domains, the presumed “natural” categories were consistently easier to learn than the “distorted” categories. Even when not central, natural prototype stimuli tended to be more rapidly learned and more often chosen as the most typical example of the category than were other stimuli. Implications for general differences between natural categories and the artificial categories of concept formation research were discussed. |
| Bunn EM, Tyler LK, Moss HE (1998) Category-specific semantic deficit: The role of familiarity and property type re-examined. Neuropsychology 12: 367–379.[View Article](http://dx.doi.org/10.1037/0894-4105.12.3.367) | Category-specific deficits for living things have been explained variously as an artifact due to differences in the familiarity of concepts in different categories (E. Funnell & J. Sheridan, 1992) or as the result of an underlying impairment to sensory knowledge (E. K. Warrington & T. Shallice, 1984). Efforts to test these hypotheses empirically have been hindered by the shortcomings of currently available stimulus materials. A new set of stimuli are described that the authors developed to overcome the limitations of existing sets. The set consists of color photographs, matched across categories for familiarity and visual complexity. This set was used to test the semantic knowledge of a classic patient, J.B.R. (E. K. Warrington & T. Shallice, 1984). The results suggest that J.B.R.'s deficit for living things cannot be explained in terms of familiarity effects and that the most severely affected categories are those whose identification is most dependent on sensory information. (PsycINFO Database Record (c) 2012 APA, all rights reserved) |
| Price CJ, Humphreys GW (1989) The effects of surface detail on object categorization and naming. Quarterly Journal of Experimental Psychology A Human Experimental Psychology 41: 797–827.[View Article](http://dx.doi.org/10.1080/13825585.2010.540849) | This paper presents a new corpus of 140 high quality colour images belonging to 14 subcategories and covering a range of naming difficulty. One hundred and six Spanish speakers named the items and provided data for several psycholinguistic variables: age of acquisition, familiarity, manipulability, name agreement, typicality and visual complexity. Furthermore, we also present lexical frequency data derived internet search hits. Apart from the large number of variables evaluated, these stimuli present an important advantage with respect to other comparable image corpora in so far as naming performance in healthy individuals is less prone to ceiling effect problems. Reliability and validity indexes showed that our items display similar psycholinguistic characteristics to those of other corpora. In sum, this set of ecologically valid stimuli provides a useful tool for scientists engaged in cognitive and neuroscience-based research. |
| Moreno-Martínez FJ (2010) Size matters: A study on naming and size knowledge in dementia of the Alzheimer type. Neurocase 16: 494–502.[View Article](http://dx.doi.org/10.1080/13554791003730626) | Category-specificity was longitudinally studied over a period of 12 months in seven Alzheimer disease patients, with two semantic tasks differing with respect to verbal processing demands: picture naming and a size ordering task. Items from each task were matched on all cognitive and psycholinguistic variables known to differ across domains (living–nonliving). Naming performance of patients was poorer than that of normal controls. Regarding category-specific effects, while naming performance of patients was parallel to that of normal controls, patients' performance with the size ordering task revealed a different scaling of living things while that of nonliving things mirrored performance of normal controls. This suggests that caution is needed when the picture naming task is exclusively used to document category-specific effects. |
| Laws KR (2005) Illusions of normality: A methodological critique of category-specific naming. Cortex 41: 842–851.[View Article](http://dx.doi.org/10.1016/S0010-9452(08)70303-4) | Category-specific disorders are perhaps the archetypal example of domain-specificity — being typically defined by the presence of dissociations between living and nonliving naming ability in people following neurological damage. The methods adopted to quantify naming across categories are therefore pivotal since they provide the criterion for defining whether patients have a category effect and necessarily influence the subsequent direction and the interpretation of testing. This paper highlights a series of methodological concerns relating to how we measure and define category (or any) dissociations. These include the common failure to include control data or the use of control data that is inappropriate e.g. at ceiling, unmatched. A review of past cases shows that the overwhelming majority suffers from these problems and therefore challenges conclusions about the purported empirical demonstrations of dissociations and double dissociations in the category specific literature. This is not a refutation of category deficits, but skepticism about the current existence of any convincing empirical demonstrations of category specific double dissociations. As a potential solution, certain minimal criteria are proposed that might aid with the attempt to document category effects that are more methodologically convincing. |
| Filliter JH, McMullen PA, Westwood D (2005) Manipulability and living/non-living category effects on object identification. Brain & Cognition 57: 61–65.[View Article](http://dx.doi.org/10.1016/j.bandc.2004.08.022) | Object naming studies have generally observed that both normal and brain damaged individuals are faster and more accurate at identifying non-living objects than living objects ([4](http://www.sciencedirect.com/science/article/pii/S0278262604002180#bib4) and [10](http://www.sciencedirect.com/science/article/pii/S0278262604002180#bib10)). However, a potential confounding variable, manipulability, has been present in past studies that may mediate this effect. Previous studies that have observed a non-living advantage have often used manipulable and non-manipulable exemplars to represent the non-living and living groups, respectively. Under conditions which controlled for object manipulability and familiarity, results demonstrated advantages for the identification of non-manipulable and for living objects. |
| Torralba A (2009) How many pixels make an image? Visual Neuroscience 26: 123–131.[View Article](http://dx.doi.org/10.1017/S0952523808080930) | The human visual system is remarkably tolerant to degradation in image resolution: human performance in scene categorization remains high no matter whether low-resolution images or multimegapixel images are used. This observation raises the question of how many pixels are required to form a meaningful representation of an image and identify the objects it contains. In this article, we show that very small thumbnail images at the spatial resolution of 32 × 32 color pixels provide enough information to identify the semantic category of real-world scenes. Most strikingly, this low resolution permits observers to report, with 80% accuracy, four to five of the objects that the scene contains, despite the fact that some of these objects are unrecognizable in isolation. The robustness of the information available at very low resolution for describing semantic content of natural images could be an important asset to explain the speed and efficiently at which the human brain comprehends the gist of visual scenes. |

YES check make sure we don’t have these already

* Baayen, R. H., Piepenbrock, R., & van Rijn, A. (1993). *The CELEX lexical database [CD-ROM]*. Philadelphia: University of Pennsylvania, Linguistic Data Consortium.
  + We have it as the updated 1995 reference that more people use now.
* Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (1999). *International Affective Picture System (IAPS): Instruction manual and affective ratings.* (Tech. Rep. No. A-4). Gainsville, FL: University of Florida, Center for Research in Psychophysiology.
  + Different name, maybe an update?
* ArtExplosion, (1998). NOVA Development [CD-ROM].
  + I think we have this one as where someone pulled things from.