

PROGRAMA Posters

Sexta-feira, 3 de maio

09h00 - Afixação de Posters

16h10 / 17h10 - Sessão de Posters

1. Examining the role of animacy in the gender-congruency effect: Evidence from European Portuguese

Ana Rita Sá-Leite¹, Ângela Tomaz², Juan Hernández-Cabrera³, Isabel Fraga¹, & Montserrat Comesaña^{2,4}

The processing of grammatical gender as an abstract lexical characteristic is usually studied through the picture-word interference paradigm (PWIP), in which participants have to name aloud a target picture using a bare noun while ignoring a superimposed/distractor word. Whereas some studies show the gender-congruency (GC) effect (faster responses to targets from the same gender than the distractor vs. different), others fail to find it. Inconsistencies may be due to language characteristics and the lack of well-controlled materials. The aim of the present study was to further examine this issue in a Romance language that had not been tested so far: European Portuguese. In two out of three PWIP experiments, we orthogonally manipulated the gender of the target, its phonological transparency (transparent vs. opaque), as well as the congruency between target and distractor in their gender value and in their phonological transparency. In Experiment 1, a GC effect for feminine targets was obtained. Because grammatical effects have been shown to be stronger when animate nouns are at issue (Dank, Deutsch, & Bock, 2015), in Experiment 2 we replicated Experiment 1 although removing animate nouns. Results failed to show the GC effect. Experiment 3, in which only opaque targets were selected, replicated this null effect. As previous studies obtaining the GC effect have included animate nouns in similar proportions as we did in Experiment 1 (8 to 33%), this study highlights the role of animacy in the GC effect. Findings are consistent with the animate monitoring hypothesis (New, Cosmides, & Tooby, 2007).

1 Cognitive Processes and Behaviour, Facultad de Psicología, Universidade de Santiago de Compostela, España; 2 Research group in Psycholinguistics, CIPsi, School of Psychology, University of Minho, Portugal; 3 Department of Psychobiology and Methodology of Behavioral Sciences, Universidad de La Laguna, España; 4 Centro de Enseñanza Superior Cardenal Cisneros, Universidad Complutense de Madrid, España

2. Can famous be more famous than famosaca? The role of suffix salience and numerosity on the processing of European Portuguese complex words and pseudowords.

Mariana Velho, Helena Oliveira, & Ana Paula Soares

Studies conducted in different languages using different tasks, procedures, and techniques have provided evidence for morphological decomposition at early stage of visual word recognition of complex words. Several issues remain, however, open due mainly to the lack of control of the characteristics of the morphological constituents of the complex words (e.g., frequency of the roots and suffixes) which can

affect the direction and/or magnitude of the results. This study used a lexical decision task to explore the role of the suffix numerosity (i.e., how many words ends with that given letter string) and suffix salience (i.e., in how many words that letter string is a suffix) in the visual word recognition of European Portuguese pseudowords (e.g., famosite) made up of real roots (e.g., famos[o]) combined with high- and low-numerosity and high- and low-salience real suffixes (e.g., ite). The words used in the task were made up of high-numerosity suffixes with high and low-salience (e.g., aldrabice/cobardia, respectively). Results revealed that participants were faster rejecting pseudowords composed by high-salience suffixes regardless of its numerosity. However, for pseudowords made up of low-salience suffixes participants took longer to reject pseudowords from the high-numerosity than the low-numerosity conditions. For words, participants were faster recognizing high-salience words. Results were discussed attending to the current models of morphological processing.

Laboratório de Cognição Humana – Grupo de Investigação em Psicolinguística, Escola de Psicologia, Universidade do Minho

3. Implicit learning in adults, pre-schooled and schooled Portuguese children: Evidence using an Artificial Grammar Learning (AGL) paradigm with alphabetic and non-alphabetic materials

Ana Paula Soares, Rosa Silva, Frederica Faria, Helena Oliveira, & Luis Jiménez

The ability to automatically extract the regularities of our environment is a fundamental ability of our cognitive system that allow us to structure the world in a regular and predictable way. It is assumed to play a significant role in the acquisition of a wide range of skills from perceptual and motor skills, to social cognition and the learning of many of the rule-governed aspects of language. However, how this ability evolves during development and how it is affected by the superficial features of the materials is controversial. Here we examine whether there is evidence for implicit learning in adults (university students), pre-schooled (4/5 years-old) and schooled Portuguese children (6/7 years-old) who performed an AGL task either with alphabetic (letters) or non-alphabetic (colours) materials. In both versions of the task, participants were firstly exposed to the subset (23) of training strings from the Knowlton and Squire's (1996) finite-state grammar presented 3 times.

Then, they were informed that the strings followed a complex set of rules, and they were asked to judge whether 32 new strings (16 grammatical and 16 non-grammatical) conform the rules of the grammar. Results showed that learning was only observed for adults in the AGL task using letters as stimuli, and, importantly, that it was mostly based on the correct rejection of non-grammatical strings that contained superficial features that make them more “illegally salient”. These results call into question the use of the AGL as a reliable task to assess implicit learning both in adults and children.

1 Human Cognition Lab, CIPsi, University of Minho, 2 Department of Psychology, University of Santiago de Compostela

4. Can syllable effects be observed for CVC orthographic first-syllable words with a phonological CV first-syllable structure? Evidence from masked priming.

Ana Duarte Campos, Helena Mendes Oliveira, & Ana Paula Soares

Many studies have focused on examining the role of the syllable as a sublexical unit at early stages of visual word recognition. Although robust evidence has been gathered from different languages, including Portuguese (Campos, Oliveira & Soares, 2018), recent lexical decision studies using a congruency masked priming paradigm have showed that reliable syllable effects were only observed for consonant-vowel (CV) first-syllable words (e.g., DU.NAS [dunes]). For consonant-vowel-consonant (CVC) first-syllable words (e.g., FOR.NO [oven]) reliable effects tend to be observed only in auditory word recognition tasks. In this work we explored if syllable effects can emerge at early stages of visual word recognition for a particular type of CVC first-syllable Portuguese words, i.e., for words that although presenting a CVC orthographic first-syllable structure, present simultaneously a CV phonological first-syllable structure as in the case of manta [blanket] (man.ta [m'ẽtɐ]). Studying these words would also provide further insights about the orthographic vs. phonological nature of syllable effects in intermediate-depth languages as Portuguese. To that purpose we used a lexical decision task combined with a masked

priming paradigm with Portuguese expert- readers. Target words with either a CV (e.g., DUNAS) or a CVC (e.g., MANTA [blanket]) first-syllable structure were preceded by 66 ms primes that could be syllable congruent with the target (e.g., du.nol-DU.NAS [dunes], man.vo-MAN.TA), syllable incongruent (e.g., dun.ce-DU.NAS, ma.nol-MAN.TA) or unrelated (e.g., xi.col- DU.NAS, ner.bo-MAN.TA). Results were discussed attending to recent findings in the literature.

University of Minho

5. Holistic word processing predicts word recognition efficiency.

Paulo Ventura¹, Miguel F. Ferreira¹, José C. Guerreiro¹, António Farinha-Fernandes¹, João Delgado¹, Bruno Faustino¹, Alexandre Pereira², & Alan Chun-Nang Wong³

Holistic processing, or the tendency to process all parts of a visual object together, has long been considered a hallmark of face perception. However, holistic processing can also be observed with other visual object categories, having been observed in the recognition of written words. In these studies, participants perform same/different judgements on the cued parts (e.g., left) of two sequentially presented words, with interference from the task irrelevant word parts (e.g., right) indicating processing of all parts of the stimuli (i.e., the congruency effect, indicative of holistic processing). Here, we adopted an individual differences approach to investigate whether holistic processing of words is functionally significant for written word processing efficiency. Participants performed a word composite task, followed by a lexical decision task in which a smaller frequency effect (i.e, smaller differences between high and low-frequency words) indicates a more efficient word recognition. We found a significant negative correlation between the magnitude of the word composite effect and the frequency effect. This correlation is primarily due to the relationship between holistic processing and the ease of processing low frequency word. These results suggest that holistic word processing can predict performance in written word recognition.

1 Faculdade de Psicologia da Universidade de Lisboa, Portugal; 2 Centre for Research in Applied Communication, Culture and New Technologies (CICANT), Universidade Lusófona de Humanidades e Tecnologias, Portugal; 3 Department of Psychology, The Chinese University of Hong Kong, Hong Kong

6. Acquisition of spelling complexities and inconsistencies by Portuguese primary graders

Ana Boaventura Mesquita, Lénia Carvalhais, Teresa Limpo, & São Luís Castro

The development of fluent spelling partially depends on the features of the orthography to be learned. Here we analyze the effect of complex and inconsistent features of Portuguese on spelling acquisition. Children from Grades 2, 3, and 4 (N = 189) completed a dictation task composed of words and pseudowords organized into seven categories representing specific spelling features: complex graphemes, contextual consistencies, position consistencies, stress marks, consonantal clusters, the silent letter <h> and inconsistencies. We examined spelling performance across these categories and the moderating role of item length (two vs. three-syllable stimuli), lexical status (words vs. pseudowords), and grade (2 vs. 3 vs. 4). Overall, children performed better in stimuli with complex graphemes and position consistencies, while those with stress marks, the silent letter <h> and inconsistencies were the most difficult to spell. Gains in performance were more marked from Grades 2 to 3 than from Grades 3 to 4. We discuss these results in light of spelling development in Portuguese and other orthographies. By studying spelling acquisition of different orthographic features across grade levels, our findings may contribute to better understand the cognitive processes underlying the shift from beginning to skilled reading and to inform evidence-based recommendations for spelling instruction in early school years.

Faculdade de Psicologia e de Ciências da Educação, Universidade do Porto

7. How do I spell an orthographically ambiguous phonological pattern?

Inácio, F., Reis, A., Morais, S., Ponte, M., & Faísca, L.

When we write unknown words (and sometimes already known words) we often have to choose among different legal orthographic patterns to spell a specific sound (for example, the sound [ʃ] could be correctly represented by <x> or <ch>). Although either spelling is correct, some patterns are clearly more frequent than others in the European Portuguese (for example, the sound [a:ɪ ʃ] could be correctly spelled with either <aix> or <aich>, but it is more frequent to find words spelled with <aix>). Although some of these alternative orthographic patterns have a clear asymmetric distribution in the Portuguese lexicon, this difference is not explicitly taught during reading and writing acquisition. Any sensitivity to these asymmetries should therefore be acquired implicitly throughout the exposure to printed text. In the present study, we tested if adult spellers use this implicit distributional information and if they were aware of it. We incorporated these asymmetrical orthographic patterns in pseudowords (for example <mupaixo/mupaicho>) and created a dictation of pseudowords task (where participants were asked to write these pseudowords) and a forced-choice decision task (where the two possible forms were presented and participants have to select the one that seemed more orthographically accurate if it was a real Portuguese word). Results showed that participants chose systematically the most frequent orthographic pattern, although without awareness of such trend. Given that these trends are not explicitly taught, we discuss that prominent orthographic pattern must be acquired implicitly by exposure to printed text.

Universidade do Algarve

8. Long live handwriting! The benefits of handwriting on visual recognition of symbols

Maria-Luís Corbal, Tânia Fernandes, Susana Araújo

Some studies suggest a larger benefit in visual recognition of symbols like letters after training through handwriting (i.e., writing from memory, copying, or tracing) than typing or mere visual exposure. Nonetheless, it is still unclear whether the characteristics of the training program (e.g., duration or intensity), the perceptual learning measures (e.g., requiring fine vs. simple discrimination), and the age of participants modulate such effect. With this aim, we conducted a meta-analysis on the effect sizes (Cohen's d effect size) of 38 published studies. Results showed that handwriting training of new symbols is highly effective with a significant, medium effect over all other, control forms of training (overall mean effect: $d = 0.39$, $I^2 = 50.57$), regardless of the type of handwriting training adopted. The magnitude of this benefit in visual symbol recognition was stable across age, yet, it was modulated by type of perceptual measure used to assess it: categorization (

e.g., character/no character decision) showed a significantly larger effect than visual discrimination, with naming of visual symbols in-between. Importantly, intense training had a significant impact in the advantage of handwriting on visual symbol recognition; the larger the number of training sessions per week, the stronger the benefit, regardless of total duration of training. This meta-analysis thus shows that training the specific visuomotor representations of symbols through handwriting enhances visual symbol recognition. This benefit depends on the intensity of training and the type of visual processes on which the learning measures tap into.

Faculdade de Psicologia, Universidade de Lisboa

9. The influence of sensorimotor training in learning a novel script: A comparison between handwriting and visual learning

Dinis Catronas, Alexandra Reis, Luís Faísca, Tânia Fernandes & Susana Araújo

Typical readers process letters faster and differently than non-letter symbols, as reflected in behavioural and neural markers. But what type of experience during learning assists the emergence of such a highly efficient system for letter recognition? Here we tested the hypothesis that visual recognition of letters benefits from a visuo-to-motor experience (through handwriting) during learning in addition to the

visual exposure of the letters. Thirty-three healthy college students were trained in a novel set of letters (pseudoletters), through either “visual-only” (mere visual exposure) or “visual-to-motor” (visual exposure plus handwriting) training during three consecutive days. Learning benefits were assessed with a four-alternative forced choice letter identification task (with three distractors: a visual and a phonological distractor and a totally different letter from the same script) at pre- and post-training while the participants’ eye-movements were recorded. The eye-tracking results showed no group differences at pre-training, while learning gains (post-training) were greater for the visual-to-motor group: this group, compared with the visual-only group, showed significantly higher preference towards the target letter over distractors, dispensing a smaller amount of time on the last (shorter viewing times). The results thus suggest that learning a new alphabet by writing facilitates indeed subjects’ recognition of letters, reflected in oculomotor markers.

Center for Biomedical Research - CBMR, University of Algarve, Faro, Portugal & Faculdade de Psicologia, Universidade de Lisboa, Portugal

10. Watch out! The mirror also reflects for words containing non-reversal letters

Ana Paula Soares, Alexandrina Lages, & Helena Oliveira

Soares et al. (2019) recently showed that the mirror-letter interference effect observed for words containing reversal-letters as “b” or “d” were only reliable for words containing mirror-left- oriented letters (e.g., dose), but not for words containing mirror-right-oriented letters (e.g., base), thus indicating that the directionality of the reversal-letters cannot be disregarded when examining the cost of suppressing the mirror-generalization mechanism at early stages of visual-word recognition. Here we examined whether this bias can also be observed for left-oriented non- reversal letters such as “g”, “z”, and “j”, which just as “d” are also prone to mirror-writing errors in left-to-right orthographies, as Portuguese. To that purpose we used a lexical decision task combined with a masked-priming paradigm in which target words, containing either left- oriented (e.g., “g”, gato) or right-oriented (e.g., “r”, rato) non-reversal letters, were preceded by 50 ms primes that could be the same as the target (identity primes, gato-gato, rato-rato), nonword primes in which the critical letter was substituted by its mirror-image (mirror-image primes, gato-gato, rato-rato) or an orthographic control (control primes, lato-gato, vato-rato). Results showed that, besides the advantage of the identity condition over the orthographic control condition, the amount of priming produced by identity primes and mirror-image primes was virtually the same for words with left-oriented (e.g., gato-gato = gato-gato), but not with right-oriented (e.g., rato-RATO < rato-RATO) non-reversal letters. These results demonstrate that lateral-inhibition cannot fully account for the mirror-letter interference effect and ask for amendments in current models of visual-word recognition.

Human Cognition Lab, CIPsi, University of Minho

11. Examining the role of executive functions in children's writing

Carolina Cordeiro, Teresa Limpo, Thierry Olive, & São Luís Castro

Framework: Writing is a highly complex and demanding task, that requires the activation and management of several processes that must be well orchestrated to achieve high quality. Given its complexity and goal-directed nature, writing is heavily dependent on executive functions (EFs), which allow writers to pay attention to the task, to generate new ideas, and to change the approach to the task. Aim: We examined the longitudinal contribution of EFs (i.e., inhibitory control, working memory, cognitive flexibility, and planning) to text quality in Grade 2. Method: One hundred and sixteen second graders (Mage = 7.26; SD = 0.29; 63 girls) participated in two measurement occasions with a six-month interval (viz., fall and spring). Students performed a set of EFs tasks as well as writing tasks to assess handwriting fluency, spelling, and text quality. Hierarchical regression analyses were conducted to examine the contribution of EFs measured in the fall to text quality measured both in the fall and in the spring, after controlling for gender, reasoning, and transcription (i.e., handwriting and spelling skills). Results: Results showed that working memory (WM) and planning at the beginning of the school year had a significant and

unique contribution to text quality six months later, above and beyond the effects of gender, reasoning, and transcription skills. Conclusion: These findings provide evidence of the key role of WM and planning in children's writing. From an applied side, this study also indicates that teachers should aim to promote EFs in order to support writing in young learners.

Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto

12. Visual word learning in adults with dyslexia: An eye-tracking study

Alexandra Reis, Dinis Catronas, Inês Salomé, Ruis Ramos, Filomena Inácio, & Luís Faísca

Previous studies have shown that regular exposure to verbal material facilitates the creation of effective lexical entries on subjects with dyslexia. The goal of this study was to compare a group of adult normative readers and a group of subjects with dyslexia during a reading pseudoword task which they were massively exposed in order to assess the capacity to create a new lexicon. The learning task was executed in two different moments, with the participants of both groups returning 7 days later to repeat the experiment. Learning effects were measured using eye-tracking measures (iView X™ Hi-Speed 1250 System). Participants with dyslexia showed significant differences in physiological data when compared to normative readers. Normative readers showed a significant drop for measures such as First Fixation Duration (ms), Fixation Count and Total Fixation Time (ms) within and between the two learning moments, being significantly lower than the dyslexic group. Length effect for normal readers was lost within the first learning moment (Day 1), while the dyslexic subjects only lost length effect in the second learning moment (Day 7). The results support the conclusion that although dyslexic readers were able to learn a new set of pseudowords, they were slower than a normative reader.

Center for Biomedical Research - CBMR, University of Algarve, Faro, Portugal

13. The Adult Dyslexia Reading Battery (ADLER): Profiling a sample of Portuguese University students with dyslexia

Inês Salomé Morais¹, Luís Faísca¹, Filomena Inácio¹, Marina Ponte¹, Ana Mesquita¹, São Luís Castro², & Alexandra Reis¹

We developed a battery of tests (ADLER) to assess reading and reading-related skills in European Portuguese adults. ADLER is an assessment battery consisting of tests of reading and writing (reading fluency, reading age test, reading comprehension test, writing to dictation, proofreading), reading-related variables (phoneme deletion, spoonerisms, phonological acronyms, rapid automatized naming) and on general cognitive skills (vocabulary, digit span, block design, matrix reasoning, picture completion and digit symbol coding from WAIS-III). Previous preliminary results from ADLER psychometric properties showed good temporal stability for most tasks and good internal consistency for phonological awareness tasks. In this study we compared a group of eighteen adult dyslexic subjects ($M_{age} = 23.50 \pm 5.17$; $M_{school\ years} = 13.11 \pm 1.45$; with a previous diagnosis and history of reading and writing difficulties, assessed by Adult Reading History Questionnaire), with a group of normative readers ($M_{age} = 22.69 \pm 5.72$; $N=154$, $M_{school\ years} = 13.52 \pm 2.03$) on ADLER's subtests. Results on general cognitive skills showed no group differences as expected. On reading and writing skills and on reading-related skills, there were significant differences between groups on all variables, except on reading comprehension and rapid automatized naming. Overall ADLER shows good psychometric properties and seems to be able to discriminate between good and poor readers.

¹ University of Algarve, Faro, Portugal; ² Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto, Porto, Portugal

14. Naming speed in (il)literacy: not a matter of task format or stimulus type

Susana Araújo¹, Vaishna Narang², Deepshikha Misra², Nishant Lohagan², Ouroz Khan², Anuradha Singh², Ramesh K. Mishra³, Falk Huettig⁴

Which aspects of the cognitive system are affected by the cultural experience of learning to read, and how? Here we investigated whether literacy acquisition bolsters a reading-related ability at the interface of visual recognition and speech production: rapid, automatic naming of visual items (RAN). We tested 32 illiterate adults and 18 early-schooled literate matched controls, from the same informal settlement in New Delhi, India, on a discrete-matrix variant of the standard RAN paradigm with objects and colors. Literate people performed better than illiterates in speeded naming of objects and colors. Moreover, for illiterate participants, but not for literate, labels for colors were harder to retrieve, which, we conjecture, could be because colors are more abstract concepts. Consequently, color naming may be more executive demanding and less semantically mediated than object naming. We concluded that literacy acquisition boosts lexical access during rapid naming and that this literacy-driven advantage is more pronounced for those representations that are somehow less firmly established. Hence, we replicated the only finding available thus far (Araújo, Fernandes, & Huettig, 2018), with three original contributions of our study: different illiterate population; discrete-matrix presentation mode (that minimizes multi-element sequence processing); different stimulus types (objects and colors).

1 Department of Psychology, Universidade de Lisboa, Portugal; 2 Jawaharlal Nehru University, New Delhi, India; 3 Centre for Neural and Cognitive Sciences, University of Hyderabad, Hyderabad, India; 4 Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands

15. “O efeito de produção confronta o efeito de realização”: O papel da distintividade na recordação

Pedro B. Albuquerque, Cristiana Santos, Beatriz Mello, Marina Scholze, & Karlos Luna

O efeito de produção traduz-se na maior capacidade de recordação de palavras lidas em voz alta em comparação com palavras lidas em silêncio. Para além da leitura em voz alta várias condições têm sido comparadas com a leitura em silêncio, nomeadamente palavras gritadas, sussurradas, escritas em computador, cantadas, escritas no telemóvel, entre outras. Os resultados apontam sempre para uma pior recordação das palavras lidas em silêncio. Nesta comunicação recorreremos a palavras que representam verbos que designam ações (e.g., cortar, apontar, etc.) e apresentamos três estudos em que as condições manipuladas se vão somando. Começamos com o procedimento-padrão (com 2 condições) que compara leitura em voz alta com leitura em silêncio; num segundo estudo (com 3 condições) juntamos uma manipulação em que os participantes se imaginam a realizar a ação; e terminamos com um estudo (com 4 condições) em que os participantes representam por gestos a ação. Os resultados mostram: (1) um efeito de produção no primeiro estudo, mas que desaparece nos estudos seguintes; (2) que as condições em que os participantes se imaginam a realizar uma ação ou em que a realizam levam a uma melhor recordação das palavras. Em conjunto, estes resultados parecem mostrar que a distintividade associada à leitura em voz alta se esbate quando outros tipos de produção se tornam mais distintivos.

Escola de Psicologia da Universidade do Minho

16. Memory updating after retrieval: when new information is false or correct

Paula Carneiro, Ana Lapa & Bridgid Finn

To explore the framework of memory updating after retrieval, we conducted two experiments testing the malleability of memory in incorporating new information in a previous memory event. All experiments used associative lists typical of the DRM (Deese, Roediger & McDermott) false memory paradigm. Use of this paradigm enabled the evaluation of the integration of false information and correct information in the original episode. In Experiment 1, the participants retrieved or restudied DRM lists. Then, they were presented with false information. The results of Experiment 1 showed that compared to restudy, retrieval easily enhanced the integration of subsequent false information, as measured by later

recall in a follow-up test. In Experiments 2, the participants retrieved or studied wrong information and afterwards, they received corrective feedback. The results of this experiment showed that retrieval led to more error correction than did study, as long as feedback was presented immediately after each item. In general, the results of this study suggested that memory may enter a labile state after retrieval and be more prone to incorporating the new related information, either false or correct.

Faculdade de Psicologia, Universidade de Lisboa

17. “You decide to whom tell the fact!”: The importance of a decision component on destination memory

Diogo Lima¹, Pedro B. Albuquerque¹, Maria Soledad Beato²

Remember to whom information was transmitted is an important social skill, named as destination memory. Although the study of this type of memory is recent, a well-defined paradigm has already been proposed, which consists of participants telling facts to pictures of famous people and, afterwards, perform memory tests. A key component to the understanding of how this type of memory operates is the transmitter decision to whom he tells a fact. The research paradigm we developed generally follows the standard destination memory paradigm but adds a decision component that turns it more ecological. In this study, half of the participants chose to whom to transmit information considering two possible choices, while the other half was done a standard paradigm, and then, performed two different memory tests: the item-memory recognition test and the associative-memory recognition test. We expect that this decision component will improve participants' destination memory capacity, as

well as will lead to a better item memory regarding face recognition. These results could add important implications to the understanding of this phenomenon and show that additional components may be needed to approach a naturalistic measure of destination memory.

¹ Escola de Psicologia, Universidade do Minho, ² Facultad de Psicologia, Universidad de Salamanca

18. “I’m a liar!”: The effect of the tendency to lie on destination memory

Raquel Pinto & Pedro B. Albuquerque

Destination memory refers to the ability to remember the person to whom we relay specific information, and it prevents us the embarrassment from conveying the same message to the same person countless times. Previous research studied the relationship between deception and destination memory proposing that when we lie, we should remember to whom we tell a lie, otherwise the deception would probably be discovered. Previous research showed a strong correlation between deception and destination memory, and higher destination memory in participants with a high-tendency to deceive than in those with a low-tendency to deceive. Results also showed that participants have a higher destination memory for lies than for true information. However, a better destination memory to false information may be due to the bizarreness of the information transmitted (e.g., “London is the capital of France”) and not because a lie was told. With this study we want to avoid the influence of bizarreness and distinctiveness on memory, replacing highly memorable statements by veracity-ambiguous sentences (e.g., “Crocodiles sleep with their eyes closed”). In our procedure, participants had to convey true and false ambiguous sentences to faces of famous people. Participants were informed that their memory for the association between information and celebrities would be tested. Results showed no differences between destination memory for lies and destination memory for true information, which support that some previous results obtained may be attributed to the distinctiveness/bizarreness of the information conveyed.

¹ Escola de Psicologia, Universidade do Minho

19. Familiarity increases the advantage of a musical background in item memory

Filipa Sousa, Catarina Botelho, Hélia Rocha, Nuno Sobrinho, Susana Silva, & São Luís Castro

It is known that background music facilitates storing words in memory, compared to silent or environmental-sound contexts. However, little is known on the subtending mechanisms, namely on how the advantage of music relates to reward or to music-related memory processes. In the present study, we tested whether the preference for a given piece of music (reward) and its familiarity (musical memory processes) modulates the advantage of musical contexts during coding. In line with the literature, the musical context improved subsequent word retrieval compared to the environmental-sound context. While music preference had no effects, familiar music was more effective than non-familiar music. Our findings suggest that concurrent music-related memory processes may contribute to the advantages of musical contexts.

Faculdade de Psicologia e Ciências da Educação da Universidade do Porto

20. Are health-threatening stimuli better retained? The mnemonic consequences of contamination

Natália Lisandra Fernandes¹, Josefa N. S. Pandeirada¹, James S. Nairne²

Evolutionary psychologists have been suggesting that human memory is optimized to process and retain fitness-relevant information. Our previous work showed a mnemonic advantage for potentially contaminated objects. In those studies, line drawings of objects presented with a short descriptor of a sick person were better remembered than line drawings of objects presented with descriptors of healthy people. This study was designed to replicate these preliminary studies but using more ecologically valid stimuli - photographs of objects being held by hands. As been widely advocated in our area, replication is a necessary ingredient to establish a phenomenon. In the presented experiment, pictures of real objects being held by real hands were shown along with descriptors denoting the health state of the people to whom the hands belonged. After every third object, the three preceding objects were shown again and participants were required to indicate whether each had been touched by a sick or a healthy person. This encoding task was followed by a distractor and finally a surprise free recall task for the objects. We replicated previous findings of enhanced memory for objects described as having been touched by sick people (i.e., potential sources of contamination). These results establish the generality of the mnemonic tuning for contamination previously found now using more ecologically-valid stimuli.

¹ Universidade de Aveiro; ² Purdue University

21. O poder mnésico da imaginação

André Vaz, Paula Carneiro, & Ana Lapa

Um paradigma frequentemente usado no estudo das memórias falsas é o das inferências pragmáticas (e.g., McDermott & Chan, 2006), frases que encorajam inferências sobre o seu significado, levando as pessoas a alterar a sua memória da frase original. Contudo, os níveis de inferências obtidas para a população Portuguesa têm sido baixos (em média 24%). O objectivo do presente trabalho é o de identificar uma metodologia que potencie as recordações falsas, aumentando a proporção de inferências feitas sobre essas frases. Nesse sentido, e seguindo a literatura sobre inflação mnésica por imaginação, a qual mostra como a imaginação de falsos eventos leva a uma inflação de falsas memórias sobre os mesmos, pedimos aos participantes que imaginassem cada acção descrita. Hipotetizámos que imaginar cada acção, por oposição a simplesmente memorizar, levaria a um maior grau de inferência. Assim, as instruções foram manipuladas inter-sujeitos, criando 3 condições: imaginar, memorizar, e ler atentamente (como grupo de controlo). Após a apresentação inicial de cada frase, todos os participantes das três condições realizaram uma tarefa final de recordação por pistas. Contrariamente ao esperado, os participantes da condição imaginar evidenciaram um desempenho significativamente melhor, mostrando uma maior proporção de respostas correctas e menor proporção de inferências pragmáticas. Na realidade, os estudos sobre inflação por imaginação podem prever estes resultados. Em ambos os casos,

a recordação do material imaginado foi inflacionada, com a diferença que, no presente estudo, esse material era informação correcta, e não um falso evento como nos estudos típicos da inflação pela imaginação.

Faculdade de Psicologia, Universidade de Lisboa

22. Metacognition effects on Password Generation and Recall

Alberto Lema & Karlos Luna

Previous studies have suggested that there is a negative association between the perceived memorability of a password and its perceived security, that is, users consider easy-to-remember passwords as less secure and vice versa. This metacognitive belief leads to suboptimal password selection. For example, users do not select sentences with high memorability and high actual security because they perceive them as weak passwords. To date, this negative relationship has been assessed in artificial paradigms. Therefore, the aim of the study was to assess how beliefs about memorability and security can affect password selection in more ecological conditions, in particular, when participants generate the passwords. In Experiment 1, participants generated different types of eight-character passwords (i.e., words, or passwords with random characters) and 40-character passwords (i.e., sentences). Then, they rated the memorability and perceived security of these passwords. Results for generated passwords showed that participants consistently perceived easy-to-remember passwords such as sentences as weak despite having much higher actual security than the other passwords, thus confirming the metacognitive belief. In Experiment 2, we asked participants to generate different password for fictitious websites and measured password memory. The results also confirmed the belief. However, they did not show the expected memory advantage for sentences vs random-characters passwords, probably because of typographical errors. Taken together, these results show the importance of user's beliefs about password memorability and security in generating new passwords.

Laboratório de Cognição Humana, CIPsi, EPsi, University of Minho

23. A meta-analytic review of repetition and familiarity effects in duration judgments

Alexandre C. Fernandes & Teresa Garcia-Marques

The impact of stimulus prior exposure on time perception has been studied in two different lines of research with apparently contradictory results. Studies using repeated stimuli within-trials (like in the oddball paradigm) shows that repeated stimuli are perceived as lasting shorter in duration than new stimuli. In contrast, studies comparing previously presented stimuli (defined in terms of familiarity) show that they are judged to last longer than unfamiliar (or non-repeated) ones. The present study reviews the literature regarding the effects of previous exposure on duration judgments and summarizes the data in a meta-analytical approach. The results shows a dissociation that is dependent of the experimental paradigm defining the type of repetition: repetition before or within experimental task. This analysis also identifies experimental features (i.e., moderators) that are likely to account for this dissociation. We discuss these results in light of the current models of time perception in order to identify the mechanisms underlying these apparently contradictory effects.

William James Ceter for Research, ISPA, Instituto Universitário

24. Are my actions really mine? Imagination and observation as sources of self-performance false memories

Margarida Cipriano¹, Paula Carneiro¹ & Isabel Lindner²

Imagine you see a picture of someone with a sock in front of them. You have to imagine this person is turning the sock inside out. Or, instead you are presented with a video in which a person is turning it inside out. Later, when asked if you have performed this task, for both cases, it is possible you say you did. These are self-performance false memories (FM); both imagination (Goff & Roediger, 1998) and observation (Lindner, Echterhoff, Davidson, & Brand, 2010) can distort people's memory in a way we claim

to have performed actions which we did not. In order to understand if imagination and observation together produce more self-performance FM than each one alone, we tested imagination and observation separately and together in a three-phase paradigm. Initially, 40 objects and action-statements were presented; half were read and performed and half read and followed by unrelated hand-gestures. Immediately after – phase 2 – 30 actions were observed or imagined twice or once observed and once imagined in a between-subjects design. Two weeks later, a forced-choice source-memory test was fulfilled – phase 3. A self-performance false memory is a “yes” answer to actions that were presented but not executed in day 1. Phase 1 has the unique purpose of making the FM plausible, since it would be easy to avoid such answers if no actions were actually performed. We will discuss how imagination and observation can have complementary roles on self-performance FM, which hints that different mechanism could be behind each process.

1 Universidade de Lisboa, 2 Universität Kassel

25. Externalizing “forgetting” in the pigeon

Carlos Pinto & Ana Sousa

The matching-to-sample task is widely used to study memory in both human and non-human animals. In this task, a stimulus (known as sample) is presented and then a choice must be made between two or more options (known as comparisons). The correct comparison depends on the sample presented before it. We aim to examine pigeons’ memory for durations in the context of the “choose-short effect”: the finding that an animal (that has learned to discriminate between samples of different durations) tends to choose the comparison corresponding to the shortest duration – irrespective of the sample presented – when a delay is introduced between the sample stimulus and the moment of choice. We used a long operant chamber that allows for traversal inside it and trained pigeons to choose one end of the box when faced with the short stimulus and the opposite end when faced with the long stimulus. The patterns of movement correlate with the animal’s estimations of duration elapsed, thus providing a real-time externalization of internal events. We are interested in assessing whether the choose-short effect holds in this environment (where the “short” and “long” responses are given in locations significantly more separated than in a traditional operant chamber), and if it does, the pigeons’ movements during the delay may inform us of the mnesic processes underlying the choose-short effect.

Laboratório de Cognição Humana, CIPsi, EPsi, University of Minho

26. Place versus response learning in the hermit crab

Valeria González¹, Marco Vasconcelos², Aaron Blaisdell³

It has been a fundamental issue in psychology to know what we learn when we learn. Cognitive theorists such as Tolman proposed that animals acquire knowledge of 'what leads to what' that result in expectations of the consequences of their behavior. In experiments addressing this issue, rats were trained in mazes to discover if learning was based on knowledge (place learning) or response (response learning). The evidence favored the former, suggesting that rats formed what Tolman called ‘cognitive maps’. Using a T-maze, we exposed hermit crabs (*Coenobita clypeatus*), to choose between a warm or cold side. Hermit crabs showed a strong preference for warm temperature. Later, we changed the orientation of the maze (e.g. from north to south), and made them choose again. If the hermit crab learned about the response, it should turn the same direction (e.g. left) even though that arm of the maze now corresponded to the cold side. If instead, it learned a map of the maze it should turn to the warm side (i.e. east). The results showed evidence of place learning, suggesting that those ‘cognitive maps’ can also be found in invertebrate species.

1 University of Minho, Portugal, 2 University of Aveiro, Portugal, 3 UCLA, USA

27. Cognitive Training on Executive Functions for Children and Adolescents with Attention Deficit/Hyperactivity Disorder: A systematic review

Andreia Veloso, Selene G. Vicente & Marisa G. Filipe

Deficits in executive functions (EF) seem to be hallmark characteristics of individuals with Attention Deficit/Hyperactivity Disorder (ADHD). Therefore, it has been proposed that cognitive training for EF can reduce ADHD symptomatology and improve functioning. To assess the efficacy of cognitive training for EF in reducing ADHD symptomatology and improving educational, interpersonal, and occupational outcomes in children aged 3 to 14 years with this disorder. From 2008 to 2018, the following databases were searched: Academic Search Complete, ERIC, MEDLINE with Full Text, PsycARTICLES, PsycINFO and Psychology, and Behavioral Sciences Collection. Keywords: executive function* OR executive functioning AND cognitive training OR intervention* AND Attention Deficit Hyperactivity Disorder OR ADHD. PRISMA guidelines were followed. Twenty-six experimental studies were included. Twenty-one studies reported performance-based measures of EF and 16 found improvements. The 26 studies reported ratings of parent, teacher, and/or clinicians' scales and 20 found improvements for ADHD symptomatology, EF, academic performance, off-task behavior (i.e., task disengagement to engage in an unrelated behavior), and/or social skills. Eleven studies performed follow-up sessions and nine concluded that the treatment effects were maintained over time. Results showed that cognitive training can be an effective intervention for children and adolescents with ADHD. However, several methodological limitations should be highlighted (e.g., heterogeneity of participants, assessment measures, and characteristics of the interventions). Additionally, considerations for the experimental designs to establish whether an intervention has the desired impact will be discussed.

Faculdade de Psicologia e Ciências da Educação da Universidade do Porto

28. Inhibitory control in childhood and its relations to early social anxiety

Catarina Fernandes, Ana Teresa Martins, Laura Ferreira, & Luís Faísca

Some results suggested that a rapid inhibitory control (IC) development moderates' risk for social anxiety (SA) symptoms in preschool children. However, the studies that aimed to study these relations are still scarce and unclear. The current study uses experimental data to characterize the IC and tests its association with SA symptoms in childhood. Method: Parents of 113 children aged between 3 and 9 years (M age = 70.38 months, SD = 13.59; ♀ = 53.1%) answered to measures of SA about their children. Simultaneously, children completed the fish flanker task (Standard, Reverse and Mixed trials) to assess IC. Accuracy and reaction times (RTs) were recorded and subsequently an interference index was calculated. Results and Conclusion: Results revealed that SA children obtained a lower interference index, concerning accuracy, in standard and reverse trials compared to children low in SA ($d > .33$). Concerning reaction times, SA children performed slower in mixed trials ($d = .47$). We can conclude that higher levels of SA were associated to an efficiency to inhibit a prepotent response that are not relevant to the task. Implications for theory and practice are discussed.

Universidade de Aveiro

29. Rumination Room: The role of executive control in the emotional response to auditory stimuli

Catarina Rosa, Pedro-Bem-Haja, Maria Ferreira, Flávia Mitkiewicz, & Carlos F. Silva

Several psychiatric conditions, including depressive and anxiety disorders, evidence rumination as a transdiagnostic pathological process in their emergence, maintenance and recurrence. Rumination is associated with impairments in executive control, namely, with difficulties in the ability to suppress irrelevant emotional information. Empirical evidence, using emotional pictures, has shown that tasks recruiting executive control tend to reduce and even eliminate this emotional interference effect. In this study, we intended to explore if this attenuation also occurs with emotional stimuli in auditory format. A

total of 60 participants (30 male and 30 female) performed two tasks - a task that required, or not, the executive control activation, and a discrimination task. Between these tasks, neutral and negative audio stimuli were presented in a random order. The pairing between the activation of executive control and the valence of the stimulus was counterbalance. Our results revealed that negative stimuli further impaired performance in the discrimination task when executive control was not activated. These results reinforce previous findings, suggesting that executive control activation is effective in inhibiting the influence of negative emotional stimuli, even when these stimuli are presented in auditory format.

Departamento de Educação e Psicologia, Universidade de Aveiro

30. The effect of mindfulness techniques on children's cognitive, affective, social, and academic development: A systematic review

Sofia Magalhães, Marisa Filipe, Ana Filipa Costa, São Luís Castro, & Teresa Limpo

The word “mindfulness” is currently used to describe a deliberate conscious awareness of the present moment without judgment (Kabat-Zinn, 2003). Research has suggested that mindfulness is a process that can be developed through practice (Bishop et al., 2004; Kabat-Zinn, 2003). Moreover, it seems that practicing mindfulness improves psychological well-being and mental health (e.g., Bowen et al., 2006; Chiesa, 2009; Chiesa & Serretti, 2009). However, little is known about the techniques through which mindfulness practice results in those benefits. Thus, we intended to systematically review the current evidence about the efficacy of mindfulness techniques on cognitive, affective, social, and academic skills of children between the ages of 6 and 12 years. This review was conducted according to PRISMA guidelines and registered on the PROSPERO database. From 2009 to 2019, the databases MEDLINE and EBSCO databases were searched. Studies were identified according to the inclusion and exclusion criteria established, and 23 experimental studies were included. Results showed that mindfulness techniques can be an effective intervention for children, improving cognitive, affective, social, and/or academic skills. Despite these findings, several methodological limitations were identified (e.g., small sample sizes and the lack of control-group designs, blind trials, and randomization). Importantly, the acknowledgment of these limitations is likely to reveal how future experimental research on the effectiveness of mindfulness interventions may be improved.

Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto

31. Efectos de la asignación voluntaria o forzada al trabajo grupal en el rendimiento y el aprendizaje colaborativo: apego y desempeño de roles

Alberto Valentín, Pedro M. Mateos, M^a del Mar González-Tablas Sastre, & Estrella López

Desde el EEES se han promovido diversas formas de metodologías docentes para trabajos en grupo. En la realización de estas actividades de grupo, intervienen variables psicológicas y didácticas que condicionan su eficacia respecto al aprendizaje académico. Objetivo: Analizar el efecto que el apego, la actitud hacia el trabajo colaborativo, y el rol desempeñado en el grupo, puedan ejercer en el rendimiento de los trabajos de grupo. Comprobar el efecto modulador de la de formación voluntaria o aleatoria de los grupos. Síntesis do método: Hemos recogido las respuestas on line, relativas a las variables independientes, de 220 estudiantes de la Universidad de Salamanca. La mitad de los participantes fueron adjudicados a la condición de grupo voluntario y el resto a la condición de grupo aleatorio. La variable dependiente fue la puntuación de los participantes en actividades de grupo. Resultados: A la espera de analizar los datos recogidos, pretendemos establecer si componentes específicos del apego y determinados roles de equipo, contribuyen a explicar la variabilidad presente en las calificaciones en el trabajo de grupo. Además, esperamos identificar diferencias respecto a la contribución explicativa de dichas variables, en función de la configuración voluntaria o aleatoria de los grupos. Conclusão e implicações: En función de los resultados, podremos discutir sobre el papel que desempeñan las variables estudiadas en cuanto a la dinámica y eficacia de los trabajos de grupo. Finalmente, esperamos

poder extraer conclusiones y aplicaciones concretas respecto a la optimización de las actividades de grupo como metodología docente en la educación superior.

Facultad de Psicología, Universidad de Salamanca

32. The Social Facilitation of Psychological Well-Being: Gender as a Moderator

Leonor Lavradio, Marília Prada, Alexandre Fernandes, & Teresa Garcia-Marques

How we feel is influenced by other people. Previous studies have generally shown that our physical and psychological well-being is positively affected by others. In some conditions, however, the presence of others has shown to foster the experience of threat, which may cancel out these beneficial influences. In two studies, we address how social presence impacts general (Experiment 1, E1) and current (Experiment 2, E2) subjective experiences, through participants' self reports. In E1 participants reported their general well-being through satisfaction in specific life domains, either in an alone or a co-action condition. E2 had participants report their mood after performing either a demanding (threatening) or non-demanding task in the mere-presence of another or alone. A main effect of social facilitation was found in both E1 and E2, suggesting that well-being is augmented in presence of others. However, we also observed a gender effect, as suggested in the literature; only women (in co-action) reported an increase in well-being in E1; and E2 showed that while mood reports for men were enhanced in the mere-presence condition regardless of the task (demanding or non-demanding) that was performed, this positive impact was only detected in women who performed the non-demanding task. Mere presence of others increases feelings of well being, but it can also be harmful to individuals performing a task - specifically, our data suggests that women are more sensitive to such contextual features.

Instituto Universitário de Lisboa (ISCTE-IUL), CIS - IUL William James Center of Research ISPA- Instituto Universitário

33. Interpersonal synchronization protects against the antisocial outcomes of frustration

Svetlana Postarnak, Fernanda Siqueira Barbara Raczka, Karol Dybowski, São Luís Castro, & Susana Silva

Interpersonal synchronization fosters prosocial behaviours such as the willingness to help, but the mechanisms subtending this causal effect remain largely unknown. One possibility is that an emerging sense of togetherness protects against the effects of frustration, which typically include antisocial behaviour. We analysed the effects of frustration during synchronization vs. non-synchronization tasks on subsequent levels of prosociality. Participants did both tasks twice - under low vs. high levels of induced frustration. For each task, we measured subsequent prosociality levels, as well as task-related frustration. Although frustration increased in the two frustrating tasks, frustration predicted decreases in prosociality only in the non-synchronization task. Our findings support the protective role of interpersonal synchronization against the antisocial outcomes of frustration.

Faculdade de Psicologia e Ciências da Educação da Universidade do Porto

34. Capacidade de deteção da mentira na população reclusa perante situações de dupla tarefa ou entrevista de recolha de informação

Ana Raquel Lourenço¹, Beatriz Oliveira¹, Pedro Bem-Haja², Carlos F. Silva^{2,3}, Isabel M. Santos^{2,3}

Uma grande variedade de técnicas, como por exemplo, a observação e identificação de pistas verbais e não verbais ou a abordagem cognitiva, têm sido estudadas como potenciais métodos para detetar a mentira. O presente estudo teve como objetivo verificar se a realização de uma tarefa paralela (tarefa de Stroop modificado) durante a resposta a uma entrevista favorece o aumento de pistas de sobrecarga cognitiva que contribuam para uma maior precisão na deteção da mentira por parte de um observador. Participaram 184 reclusos de cinco estabelecimentos prisionais. A sua tarefa consistia na visualização de diferentes vídeos (um por participante), onde era exibida uma entrevista sob quatro condições experimentais: apenas entrevista e mentir, dupla tarefa e mentir, apenas entrevista e dizer a verdade, dupla tarefa e dizer a verdade. Seguidamente era preenchido um questionário sobre o vídeo

visualizado onde eram avaliados quatro domínios (esforço mental, nervosismo, controlo do comportamento e dificuldade da tarefa) e classificado o entrevistado como mentiroso ou inocente. Verificou-se que a condição de dupla tarefa não exerceu qualquer influência na precisão da deteção da mentira. Para além disso, as variáveis manipuladas não influenciaram significativamente a avaliação feita nos quatro domínios. O nervosismo aparentemente foi a pista mais utilizada para classificação dos entrevistados como inocentes ou mentirosos, tendo também sido utilizadas diversas outras pistas identificadas pela literatura, embora sem influência direta na precisão dos julgamentos. Estes resultados sugerem que a utilização de pistas estereotípicas de mentira se mantém, sem benefício para a capacidade de deteção da mentira/verdade.

1 Departamento de Educação e Psicologia, Universidade de Aveiro; 2 CINTESIS, Universidade de Aveiro; 3 William James Center for Research, Universidade de Aveiro

35. Children are curious and adults are responsible: Stereotypes and feelings towards children and adults

João O. Santos, Sara Hagá, & Leonel Garcia-Marques

Social psychologists thoroughly investigate how people sort others into social categories and how stereotypes of those groups influence one's behavior. However, the literature might have overlooked a whole social category, namely children, whose characteristics (e.g., distinctive perceptual features, attending school) make them particularly easy to categorize. Knowing the content of adults' stereotypes and feelings towards children is instrumental to better understand the mental processes and behaviors that occur in adult-child relations. Aiming to fill this gap, we adapted Haddock, Zanna, and Esses' (1993) task to collect the attitudes, stereotypes, and feelings that young adults have towards children. 120 participants provided global evaluations, listed attributes and feelings, and rated the valence, as well as the prevalence of those attributes and feelings, towards 1 of 3 target groups: children aged 3 to 5 years, children aged 6 to 10 years, and adults. Globally, participants' attitudes, stereotypes, and feelings towards children, particularly preschool-aged children, were very positive and more positive than those towards adults. These results converge with previous findings that children are a well-liked social group. However, they also raise questions about potential implications of adults holding such positive stereotyped views of children. For instance, what happens when children's behavior goes against these positive expectations? May these positive views conceal a darker side, just as benevolent sexism and discrimination against women in the workplace coexist with positive stereotyped views of women?

Faculdade de Psicologia da Universidade de Lisboa (CICPSI)

36. A criança e o adulto dentro de nós, vistos de fora: Percepção de pessoas descritas como “muito crianças” ou “muito adultas”

Madalena Ricoca-Peixoto, Sara Hagá, João O. Santos, & Mariana P. Garrido

Curiosamente as pessoas associam, por um lado, o conceito de ‘criança’ a aspectos maioritariamente positivos enquanto que, por outro lado, associam o conceito de ‘imaturidade’ a aspectos maioritariamente negativos. O presente estudo visou investigar as impressões de personalidade que as pessoas formam quando um alvo – uma criança ou um adulto – é descrito como sendo “muito criança” ou “muito adulto”. Caso o atributo “muito criança” remeta para a essência positiva associada à categoria social das crianças, as impressões dos alvos assim descritos serão mais positivas do que as dos alvos descritos como “muito adultos”. Caso o atributo “muito criança” remeta para imaturidade, espera-se o efeito oposto. Finalmente, caso o atributo “muito criança” seja considerado adequado em crianças, mas inadequado (sinal de imaturidade) em adultos, as impressões de alvos crianças descritas desta forma devem ser mais positivas do que as de alvos adultos. 133 jovens adultos viram uma fotografia do alvo (criança vs. adulto) emparelhada com uma descrição (“As pessoas que o conhecem bem dizem que ele é [muito criança vs. muito adulto]”) e avaliaram o alvo em 11 escalas (itens avaliativos, intelectuais e sociais). Os participantes formaram impressões mais positivas dos alvos crianças do que

dos adultos, independentemente do atributo. O atributo “muito criança” resultou em avaliações mais negativas do que “muito adulto” apenas nos itens intelectuais. Este estudo abre caminho para melhor compreendermos a forma como pensamos acerca das crianças enquanto grupo social e para reflectir sobre possíveis explicações teóricas e implicações sociais destas percepções.

Faculdade de Psicologia da Universidade de Lisboa (CICPSI)

37. Trabalhar com miúdos e graúdos: Profissões relacionadas com crianças são socialmente desvalorizadas?

Beatriz Gusmão & Sara Hagá

A discriminação no trabalho é um problema que tem sido profusamente estudado. Sabe-se, por exemplo, que as mulheres são prejudicadas relativamente aos homens em termos salariais e de progressão na carreira. Adicionalmente, trabalhos tipicamente femininos recebem menos prestígio social. Será que ocupações relacionadas com crianças (e.g., educador de infância) sofrem o mesmo tipo de desvantagem relativamente a outras ocupações? No estudo 1, 75 participantes avaliaram 68 ocupações relativamente à tipicidade de género e ao relacionamento com crianças. Essas avaliações foram comparadas com dados de prestígio percebido recolhidos anteriormente. Os resultados sugerem que é mais difícil obter prestígio social através de ocupações relacionadas com crianças (bem como com ocupações tipicamente femininas), em comparação com ocupações relacionadas com adultos. No estudo 2, 60 participantes avaliaram 6 textos de opinião supostamente escritos por profissionais de ocupação muito ou pouco relacionadas com crianças. Por exemplo, um mesmo texto poderia ter sido escrito por uma enfermeira de saúde infantil ou por uma enfermeira de reabilitação. Não se verificaram avaliações mais negativas para os textos de autores com ocupações mais relacionadas com crianças. Várias possibilidades de explicação para a inconsistência destes resultados serão discutidas, bem como formas alternativas de testar a hipótese de que ocupações relacionadas com crianças são socialmente desvalorizadas. Salientam-se implicações desta eventual desvalorização para os trabalhadores, mas também para o grupo-alvo destas ocupações: as crianças.

CICPSI, Faculdade de Psicologia da Universidade de Lisboa

38. Diz-me o que dizes e o que dizem de ti - Dir-te-ei quem és

Matilde Barata, Sara Varatojo & Teresa Garcia-Marques

Os termos que utilizamos para definir pessoas são construções sociais que têm impacto na forma como percebemos quem é alvo dos mesmos e quem os utiliza. Aqui, procuramos compreender o impacto que o modo como nos referimos a uma pessoa pode ter nas impressões que formamos.

No seguimento de um estudo sobre o grau de preconceito associado a diferentes termos (negro, de cor e preto), propomo-nos a estudar o impacto que estes termos têm nas impressões que se formam, quer relativamente a quem os usa, quer a quem é alvo dos mesmos. Para tal, pediu-se aos participantes para avaliar um comunicador e um indivíduo ao qual este se refere utilizando os termos “negro”, “de cor” ou “preto”, em diversos traços pré-testados como típicos de indivíduos racistas e traços típicos do estereótipo de pessoa negra. Os resultados mostram que o comunicador que usa o termo “preto” é percebido como mais racista do que o que usa os termos “negro” e “de cor”. O uso do termo “preto” tem igualmente consequências na forma como percebemos o alvo, sendo que ao alvo designado de “preto” são atribuídas mais características estereotípicas positivas e menos características estereotípicas negativas do que aos restantes alvos.

ISPA Instituto Universitário das Ciências Psicológicas Sociais e da Vida

39. Carryover effects may not be always bad: the effects of order of emotional induction in subjective reports

Filipa Barros, Cláudia Figueiredo & Sandra C. Soares

Emotional induction is often used to examine the relationship between emotional state and cognitive, behavioral and physiological processes. When performed in a within-subjects design, counterbalancing or randomizing inductions is usually employed to prevent carryover effects. However, few studies have explored how the order of induction influence the response and, since the objective often encompass getting an optimal emotional induction, how this effect could benefit the research. To examine the effect of order of emotional induction on the subjective reports of emotional state. Seventy-six healthy individuals were recruited. Three sets of videos inducing fear, happiness and neutral emotion were presented in separated sessions, in a counterbalanced order. Before and after each emotional induction, subjective reports of happiness, fear and anxiety were collected. Results evidenced a significant interaction effect of emotional induction, time of evaluation (pre or post induction) and session order. Participants starting with fear induction, evidenced higher decrease in reported happiness between the pre and post-induction, compared to whom started with happiness, in the fear session. Also, participants starting with fear induction, had lower pre-evaluation of happiness but higher increase of happiness in post-evaluation in the happiness induction. The effectiveness of the emotional induction, illustrated by the difference between the pre and the post-subjective report, depended on the order. Although a fixed order may seem problematic at first sight, when considered, it may be a way to boost an effective induction. This is especially relevant depending on the research aim (e.g., collect biological samples).

Universidade de Aveiro

40. O diâmetro pupilar enquanto marcador de tecnostresse durante a apresentação de imagens coloridas e em escala cinza da Lusophone Technostress Image Datadase (LTID)

Pedro J. Rosa, Daniela Mendes & Regiane Ciotta

Atualmente, a sociedade obriga a uma constante necessidade de interação, adaptação e aquisição de competências com as NTIC. A falta de adaptação pode levar a um estado psicológico negativo associado ao uso das NTIC, designado como tecnostresse (Salanova, Llorens, Cifre, & Nogareda, 2007). De acordo com o Modelo Transacional de Stress de Lazarus e Folkman (1984), o tecnostress surge pela incapacidade de, face aos recursos do individuo e principalmente, da auto-ineficácia, ajustar-se à exigência da situação. Tendo em conta que a dilatação pupilar é um indicador fisiológico do stresse, a presente investigação pretendeu examinar o efeito de imagens tecnostressoras no Rácio de Diâmetro Pupilar (RDP) em comparação com outras categorias de imagens. Dois estudos com eye tracking com amostras independentes (1º estudo: apresentação de imagens em escala cinza; 2º estudo: apresentação de imagens coloridas), permitiram registar a atividade pupilar a 72 voluntários adultos, no total, durante a apresentação de imagens de quatro categorias (tecnostressoras, negativas, positivas e neutras). Dois grupos antagonistas de tecnostresse foram criados com base nas dimensões ineficácia e fadiga da escala de Tecnostresse RED/TIC. Os resultados destacaram, para as imagens em escala cinza, um efeito moderador do nível de tecnostresse entre a categorias de imagem e o RDP. No entanto, para as imagens coloridas, o efeito foi marginalmente significativo. O RDP mostrou-se diretamente associado com o arousal e inversamente associado com a valência hedónica. Os resultados sustentam a importância da percepção da autoeficácia no tecnostresse e reforçam a validade de construto da LTID.

EPCV/ULHT; HEI-LAB/ULHT; CIS/ISCTE-IUL; CIP/ISMAT

41. A distância olho-ecrã como indicador de aproximação-evitamento associado ao tecnostresse: um estudo oculométrico com imagens da Lusophone Technostress Image Datadase

Pedro J. Rosa & Patrícia Lopes

A adaptação contínua às Novas Tecnologias de Comunicação (NTIC), pode levar ao tecnostresse, que é tido como um estado psicológico negativo relacionado com o seu uso ou de ameaça com uso futuro. (Salanova, Llorens, Cifre, & Nogareda, 2007). De acordo com o modelo de motivação humana,

existem dois sistemas motivacionais responsáveis pelo comportamento. Se um estímulo for percebido como negativo/aversivo (e.g. tecnostressor), despoleta um comportamento de evitamento. Caso um determinado estímulo seja percebido como positivo, leva a um comportamento de aproximação (Cacioppo & Berntson, 1994; Elliot, 2006). Existem diversos indicadores fisiológicos e comportamentais de aproximação-evitamento (e.g. assimetria frontal, alfa, postura, no entanto, até à data, pouco se sabe sobre a Distância Olho-Ecrã (DOE). A presente investigação procurou examinar o efeito de imagens tecnostressoras coloridas da Lusophone Technostress Image Database (LTID) na DOE, em comparação com outras categorias de imagens.

Num estudo oculométrico com 40 voluntários adultos, apresentaram-se aleatoriamente 48 de imagens de quatro categorias (tecnostressoras, negativas, positivas e neutras). Dois grupos opostos de nível de tecnostresse foram criados com base nas dimensões ineficácia e fadiga da escala de Tecnostresse RED/TIC. Os resultados indicaram um efeito moderador do nível de tecnostresse entre a categorias de imagem e a DOE. O presente estudo mostra que esta metodologia e indicador ocular podem ser utilizados nos estudos que abordem os aspetos comportamentais da emoção, reforçando, igualmente, a validade de construto da LTID.

EPCV/ULHT; HEI-LAB/ULHT; CIS/ISCTE-IUL; CIP-ISMAT

42. The effects of (sexual) violence content on men's emotional responses.

Joana Carvalho, Pedro J. Rosa, Ana Russo, Catarina Carneiro, & Erick Janssen

Studies on the emotional processing of interpersonal violence have focused on how individuals process physical violence against a human target (i.e., beating, stabbing, shooting; e.g., Kostas, et al., 2017). Accordingly, there is a gap on how sexual violence is processed and appraised, as well as its specificities. This study was aimed at assessing men's emotional responses toward a sexual violence stimulus, i.e., a stimulus displaying non-consented sex. Thirty community men were voluntarily exposed to three 40-second video-clips: 1) sexual violence (a woman being raped by a man), 2) physical violence (a woman being physically attacked by a man), 3) non-violence (a consensual and non-violent male-female interaction). Emotional responses to each clip were measured physiologically (EMG, EDA) and by self-report (state PANAS, subjective sexual arousal). Findings on physiological responses revealed no differentiating effects between stimuli. On the other hand, participants reported more positive affect to the non-violence clip, and more negative affect to sexual and physical violence clip. The sexual violence and non-violence clip further yielded more subjective sexual arousal. Findings add on the emotional processing of sexual violence, suggesting that, in men, non-consented sex and a non-violent male-female interaction, induce similar psychophysiological responses, as well as increased levels of subjective sexual arousal. There seems to be some specificities on sexual violence processing, as non-consented sex combines a negative appraisal (i.e., more negative affect) with increased levels of sexual arousal (i.e., approach motivation towards sex).

Universidade Lusófona

43. Prefrontal and parietal gamma activity during the visualization of videos with violent sexual content

Pedro J. Rosa¹, Joana Carvalho², Bárbara Sousa³, Liliane Araújo³, & Gonçalo Paulino³

Empirical evidence has shown that the processing of positive and negative emotions is linked to anterior brain areas (e.g., Carretié, Iglesias, & Garcia, 1997; Glotzbach, Mühlberger, Gschwendtner, Fallgatter, Pauli, & Herrmann, 2011; Northoff et al., 2001). However, most of the studies on emotions do not consider the effect of violent sexual content on emotional processing. To examine whether the presence/absence of violent sexual content affects prefrontal and parietal gamma activity. EEG data was collected from 26 healthy men, right-handed that were exposed to three 40-second movie clips: 1) a raping scene, 2) physical (non-sexual) violence against woman scene, and 3) a non-violent male-female interaction scene while gamma activity (25-43Hz) was measured through the system EPOC+ cap with 14

electrodes at 128 Hz. The average power estimates (μV^2) were found using a fast Fourier transform (1s Hamming window) for two electrodes pairs [prefrontal (AF3, AF4) and parietal (P7, P8)]. It was found a higher prefrontal gamma activity for the non-violent male-female interaction than for the physical (non-sexual) violence. However, no differences on parietal gamma activity between video clips were found. Our preliminary findings suggest that gamma activity is sensitive to the presence/absence of violent content and that prefrontal lobe is more implicated in emotional processing than the parietal lobe.

1 EPCV/ULHT; HEI-LAB/ULHT; CIS/ISCTE-IUL; CIP-ISMAT; 2 EPCV/ULHT; HEI-LAB/ULHT; 3 ISMAT

44. “How much emotional information is needed for a voice to be perceived as emotional?” A behavioral study using morphed stimuli

Maria Amorim & Ana P. Pinheiro

The ability to decode emotion from nonverbal vocalizations (e.g., laughter, screams and crying) is critical in our everyday lives. Previous studies showed that listeners are better at decoding emotions from nonverbal vocalizations than prosodic speech, and that vocal emotions are perceived categorically.

This study aimed to validate a set of morphed stimuli to be used in future experiments. We developed and tested a morphing protocol, using the TANDEM-STRAIGHT software, to morph emotional and non-emotional nonverbal vocalizations selected from the Montreal Affective Voices database. This resulted in four different morphed continua (Neutral to Angry; Angry to Neutral; Neutral to Pleasure; Pleasure to Neutral), each with 11 stimuli (e.g., Neutral to Angry: 100% neutral, 0% anger; 90% neutral, 10% anger; etc.) by two male and two female speakers. Participants (N = 147) were asked to rate the morphed vocalizations stimuli in the affective dimensions of valence and arousal, and to identify their emotional category. Preliminary results indicate that vocalizations with higher percentages of emotional information were considered more emotional. Furthermore, vocalizations with a higher degree of neutral information (e.g., 60 %) were still rated as emotional. The current findings support the notion that emotional information is more salient for the listener. Importantly, they will provide the ground for future studies of vocal emotional processing using morphing.

Faculdade de Psicologia, Universidade de Lisboa

45. O acaso com diferentes padrões: Prevendo a emoção da face através do batimento cardíaco em diferentes níveis de autoaversão.

Diana João, Pedro Bem-Haja, Rafael Ferreira, Paula Castilho, Paula Vagos, & Isabel M. Santos

O presente trabalho teve por objetivo prever a emoção de faces (nojo e alegria), utilizando o batimento cardíaco tendo em conta o nível de autoaversão dos indivíduos. Para isso recolheu-se o eletrocardiograma enquanto os sujeitos realizavam uma tarefa de reconhecimento de faces de nojo e alegria. Para a análise de predição emocional utilizou-se apenas a fase de aprendizagem para controlar potenciais enviesamentos da exatidão na tarefa de memória. Os resultados do presente estudo mostraram que o batimento cardíaco aos 2 e 4 segundos após o estímulo não discriminavam as emoções. Contudo quando foi tido em conta o nível de autoaversão, apesar da exatidão do modelo se manter no acaso, inverteu-se o padrão especificidade/sensibilidade. Isto é, para os sujeitos com elevados níveis de auto-aversão, o modelo otimizado possuía aproximadamente 70% de sensibilidade e 40% de especificidade ao passo que para os indivíduos com baixo nível de auto-aversão o modelo otimizado possuía 28% de sensibilidade e 76% de especificidade. Também a preponderância dos segundos foi invertida. Mais estudos são necessários para verificar este padrão interativo, que poderá revelar um funcionamento do sistema nervoso autónomo distinto entre indivíduos com diferentes níveis de auto-aversão.

Universidade de Aveiro

46. Media Multitaskers: who are they and who do they become?!

Ana Sousa, Natália Guerra, Diana R. Pereira, & Diego Pinal

Human interaction with different technological devices and digital platforms is a ubiquitous feature of our modern societies. This ever-increasing pattern of behavior has been studied under the designation of media multitasking (MMT). The current review work aims to provide a comprehensive characterization of individuals who multitask the most (MMTs) - in terms of cognitive and behavioral idiosyncrasies - as well as the consequences that said behaviors may prompt. Regarding MMTs characterization, literature suggests that these individuals, especially those with high MMT levels, display some impulsivity traits, being poor at selecting relevant information. Moreover, in line with the impulsivity, these individuals also demonstrate lower levels of self-control. This characteristic may constrain MMTs behavior towards rewards, as they have been shown to prefer immediate gratification rather than a later yet greater one. Concerning the consequences of MMT, some studies proposed that it can boost stress levels, as well as, trigger depression and anxiety symptomatology. Furthermore, MMT may impact cognitive performance in different ways across distinct cognitive domains. Hence, whereas some studies have been showing MMT benefits in terms of task-switching abilities, others have been highlighting the negative impact of MMT on inhibitory control, working memory (by reducing its capacity) and on attention (by increasing the number of attentional lapses). In summary, this is a recent field of research and more investigation is warranted to elucidate the possible causes and consequences of MMT.

Escola de Psicologia, Universidade do Minho

47. The neural basis of intransitive gestures: An fMRI study

Rita Vieira, Rita Pereira, Adriana Sampaio, Angela Bartolo, & Diego Pinal Fernández

Intransitive gestures are categorized as mental or instrumental, as they are performed close or far from the body. In the present study, we investigated the neural correlates of intransitive gestures processing. In addition, we explored the relationship between cognitive and praxis skills by considering the role of theory of mind and verbal abilities in intransitive mental and instrumental gestures, respectively. Using an event-related functional magnetic resonance imaging paradigm, we assessed the brain activation of 12 healthy participants that were required to perform a gesture recognition task. Participants also performed theory of mind and verbal fluency tasks. The fMRI analysis showed that intransitive mental gestures activated frontal and temporal brain areas, whereas intransitive instrumental gestures activated the frontal, temporal, parietal and insular cortex. Furthermore, we found that when processing intransitive mental gestures, a stronger activation on middle frontal gyrus was associated with better performance on the theory of mind task. In contrast, for intransitive instrumental gestures, a stronger activation of the inferior frontal gyrus was associated with a better performance on the language task. Our findings suggest that the space in which gestures are performed influence the brain activation, but also highlight the role of cognitive abilities in intransitive gestures processing.

Escola de Psicologia, Universidade do Minho

48. Neural Basis of Pantomime and Intransitive Gestures: an fMRI Study

Rita Pereira, Rita Vieira, Adriana Sampaio, Angela Bartolo, & Diego Fernández

Previous neuroimaging studies have found mixed and inconsistent results regarding dissociative brain networks recruited for processing pantomimes and intransitive gestures. We compared brain activation involved in the recognition of pantomime (e.g., “brushing teeth”), intransitive (e.g., “waving goodbye”) and meaningless gestures in 12 healthy subjects by using event-related fMRI. Overall, we found that recognition of pantomimes when compared to meaningless gestures was associated with an increased BOLD-activity of the right middle temporal gyrus, left cuneus and left uvula, and of the left precuneus when compared with intransitive gestures. The brain activations for intransitive gestures when compared to meaningless gestures included the left superior frontal gyrus, the left precentral gyrus, the left middle temporal gyrus, the left supramarginal gyrus and the right insula, and the left medial frontal gyrus when compared with pantomimes. These findings point out that pantomimes recruit brain areas linked to semantic information, giving a meaning and storing the appropriate way of using an object, motor

representation of the tool use and attentional orientation, whereas intransitive gestures were associated with activations in areas linked to social cognition. Finally, the meaningless gestures recruit brain-areas linked to motion perception.

Escola de Psicologia, Universidade do Minho

49. Using a Psychophysical Method to Determine the Comfort Zone in a 3D Display

Inês Fortes¹, Emanuel Sousa², Ana Mackay¹, Patrícia Barbosa¹, João Pedro Ferreira³, Jorge Almeida Santos^{1,2,4}, & Carlos Silva²

Autostereoscopic displays allow seeing 3D content without glasses, which gives them great potential value for applications in several domains such as entertainment, or the automotive industry. However, to ensure user acceptability and safe use, it is fundamental to establish proper guidelines for content display. In the present experiment we studied the comfort zone, that is, the maximum depth of content (behind and in front of the screen) where it is still comfortable to perceive information. Ideally, a method to find this zone should be quick and easy to apply, and produce consistent results. In this study we explored the method of constant stimuli to measure the comfort zone. Moreover, we also assessed the chromostereopsis effect, to determine if the color of the stimuli affects the comfort zone. The results showed that the comfort zone is wider when (a) only one object is presented (i.e., without a referent object), (b) the object is blue (vs. red), and (c) there is a referent object and the target object is behind the screen. We conclude that the proposed psychophysical method seems suitable in this domain and suggest some design recommendations based on the obtained results.

1 Algoritmi Research Centre, School of Engineering, University of Minho, Portugal, 2 Center for Computer Graphics, Guimarães, Portugal, 3 Bosch Car Multimedia, Braga, Portugal, 4 Department of Basic Psychology, School of Psychology, University of Minho, Portugal