

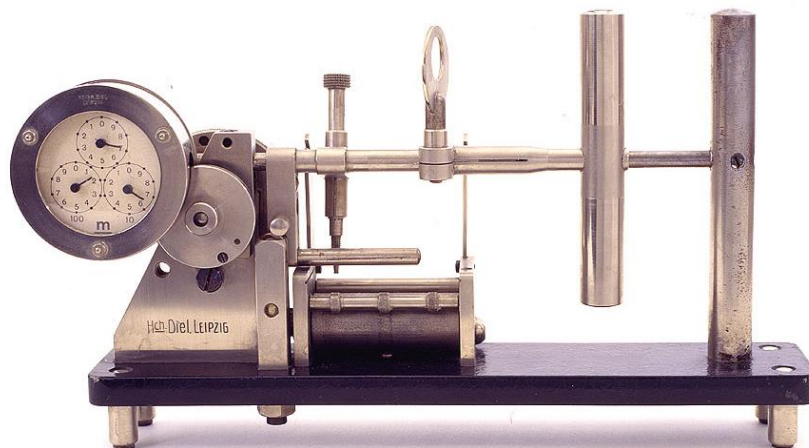
XXV NAUČNI SKUP

# EMPIRIJSKA ISTRAŽIVANJA U PSIHOLOGIJI

29 – 31. MART 2019.

FILOZOFSKI FAKULTET, UNIVERZITET U BEOGRADU

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INSTITUT ZA PSIHOLOGIJU  
LABORATORIJA ZA EKSPERIMENTALNU PSIHOLOGIJU  
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# EMPIRIJSKA ISTRAŽIVANJA U PSIHOLOGIJI

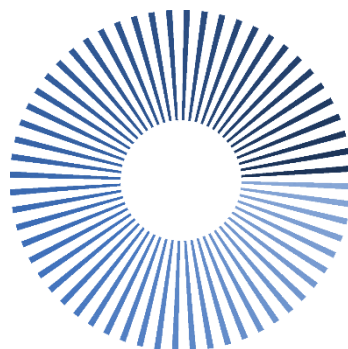
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INSTITUT ZA PSIHOLOGIJU



LABORATORIJA ZA EKSPERIMENTALNU PSIHOLOGIJU FILOZOFSKI FAKULTET,  
UNIVERZITET U BEOGRADU

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samples t-test showed marginal differences between the positive and the negative group ( $t(1, 89) = 1.98, p = .051$ ) with the negative group showing a working memory advantage. Two-way factorial ANOVA showed marginal differences regarding the effect of word valence ( $F(2, 89) = 2.94, p = .056$ ) but no differences were observed between specific levels of this factor. The interaction between the participants' affect and word valence was also insignificant ( $F(2, 89) = 0.06, p > .05$ ). To the authors' knowledge, up to now, no study has combined three procedures for emotion induction (film, music, gift) so it might be the case that this procedure was too artificial and did not elicit intended emotional states for that reason. However, it might be speculated that the observed trend in the results regarding the influence of affect would have been stronger if the experimental manipulation had been more successful.

**Keywords:** working memory, emotion induction, emotional content, operation span task

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## SEMANTIC DYNAMICS AND SENSE UNCERTAINTY EFFECTS – PREDICTIVE POWER AND LIMITATIONS OF THE SSD MODEL

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Years of empirical work have shown that words with multiple related senses (polysemy) are processed faster than unambiguous words, whereas the ones with multiple unrelated meanings (homonymy) are processed slower (Rodd, Gaskell, & Marslen-Wilson, 2002). This was true for the lexical decision task (LDT), however, if different experimental task was employed, presence of those effects would vary. To account for this, Semantic Settling Dynamics (SSD) model was developed (Armstrong & Plaut, 2016) which relies on the hypothesis that different amounts of semantic demands between experimental tasks are the cause of varying effects. Model predicts that polysemes produce a large effect in early phases that decreases with further processing. In order to test this prediction further, we described polysemy by entropy – measure that combines number of senses with the balance of their probabilities. In two experiments, we used the same strategy of prolonging of the processing: we compared a visual LDT with its slowed down version. In our first experiment, slowing down was attempted by reducing stimulus-background contrast and in the second one, we compared visual and auditory LDT (Armstrong & Plaut, 2016; Medeiros & Armstrong, 2017). First manipulation failed to prolong processing, although expected facilitatory entropy effect was present in both experimental conditions (high contrast:  $b = -.011, S.E. = .004, df = 220.4, t = -2.41, p = .017$ ; reduced contrast:  $b = -.012, S.E. = .003, df = 232.4, t = -2.748, p = .006$ ). Second manipulation substantially prolonged the processing and the interaction between entropy and the experimental manipulation was significant ( $b = .022, S.E. = .003, df = 139.485, t = 8.039, p = .000$ ). In visual LDT, expected entropy effect was found ( $b = -.024, S.E. = .020, df = 142.885, t = 30.425, p = .000$ ), while in the auditory LDT (prolonged), there was no such effect ( $b = -.003, S.E. = .005, df = 166.99, t = -.589, p = .557$ ).

Both results are in the accordance with model predictions – when there was no prolonging of the processing, there was no change in entropy effect, while in the prolonged condition the effect disappeared. According to model background, auditory lexical decision should still produce polysemy effect, while in our experiment no effect was noted in that condition. These

results implicate that SSD model may predict modulation of the entropy effect, however, it is unable to predict the exact effect change which is a great limitation of its predictive power.

**Keywords:** semantic ambiguity, entropy, polysemy, Semantic Settling Dynamics

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## DA LI OČNI POKRETI ODGOVARAJU SADRŽAJU MENTALNIH PREDSTAVA?

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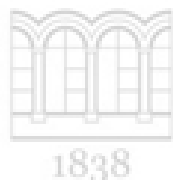
Filozofski fakultet, Univerzitet u Beogradu

Poznato je da postoje veze između očnih pokreta prilikom mentalnog predstavljanja i stvarnog rasporeda objekata u neposrednom iskustvu. Prethodna istraživanja su pokazala da očni pokreti oslikavaju pozicije objekata kada ispitanici gledaju određenu sliku, slušaju određeni opis ili prepričavaju jedno od ova dva (Johansson, Holsanova, & Holmqvist, 2006), kao i da je disperzija očnih pokreta negativno povezana sa skorom na spacijalnom mentalnom predstavljanju (Johansson, Holsanova, & Holmqvist, 2011). Cilj ovog istraživanja je replikacija nalaza Johansona i saradnika. Pošto je navedeno istraživanje prvo koje je demonstriralo ove efekte sa složenim stimulusima, potrebna je replikacija istraživanja, kako bi se utvrdila stabilnost fenomena i stvorila šira empirijska građa.

Ispitanici ( $N = 36$ ; 86% žena, uzrast 19/20 god.) su bili podeljeni u dve grupe –gledali su sliku ili slušali opis određenog prizora. Njihov zadatak je bio da prepričaju ono što su videli/čuli gledajući u beli ekran, a beležen je obrazac njihovih očnih pokreta. U analizi su praćene globalna korespondencija (GK; usklađenost celokupnog obrasca očnih pokreta) i lokalna korespondencija (LK; očni pokreti samo idu u odgovarajućem pravcu, ali ne oslikavaju opšti raspored prizora) očnih pokreta. Prikupljene su i mere ispitanika na OSIVQ upitniku koji meri kognitivne stilove tj. preferirani tip mentalnog predstavljanja (objektni, spacijalni ili verbalni). Rezultati pokazuju da GK između očnih pokreta i prepričavanja postoji samo u grupi koja je posmatrala sliku (28-68% poklapajućih objekata,  $V = 131$ ,  $p < .05$ ). Kod onih koji su slušali opis prizora postoji značajna samo LK (53% poklapajućih objekata,  $V = 154$ ,  $p < .05$ ). Rezultati pokazuju i da disperzija očnih pokreta nije povezana ni sa jednim od kognitivnih stilova u grupi koja je posmatrala sliku, dok u drugoj grupi postoji umerena negativna korelacija ( $r = -.48$ ) između disperzije i objektnog mentalnog predstavljanja, koje karakteriše živopisnost mentalnih slika. Rezultati originalnih studija su samo delimično potvrđeni i ukazuju na to da je moguće da razlike potiču od modaliteta izlaganja sadržaja, gde se GK pre vezuje za sadržaj koji je izložen vizuelno, te je stoga bliži stvarnom vizuelnom opažanju. Takođe, postojanje veze između spacijalnog mentalnog predstavljanja i disperzije očnih pokreta nije potvrđeno. Uzeti zajedno, ovi rezultati sugerišu da pitanje očnih pokreta i mentalnog predstavljanja još nije sasvim rešeno.

**Ključne reči:** mentalno predstavljanje, očni pokreti, mentalne reprezentacije, percepcija

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