

Vencislav Popov

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Education

- 2015 - present Ph.D., Psychology, Carnegie Mellon University
Area: Cognitive neuroscience, Adviser: Lynne M. Reder
Committee: John Anderson, Marlene Behrmann, Marc Coutanche
- 2013 - 2015 B.A., Psychology, New Bulgarian University
GPA: 6.00 out of 6.00 maximum, expected graduation date: June, 2015
- 2011 - 2013 B.A., Psychology, Sofia University "St. Kliment Ohridsky"
GPA: 6.00 out of 6.00 maximum, transferred to NBU before completion

Research and work experience

- 06.2015 - current Ph.D. student, Memory Lab, Carnegie Mellon University
Director: Lynne M. Reder, Ph.D.
- 01.2015 - 08.2015 Data Analyst, Bulgarian Addictions Institute
Directors: Jasmin Vassileva, Ph.D., & Georgi Vasilev, M.D.

I was mainly responsible for data analysis on an international research project funded by grant 2R01DA021421 from the National Institute on Drug Abuse (NIDA) - USA, that aims to explore how different personality and neurocognitive aspects of impulsivity can affect and be affected by drug addiction.
- 03.2013 - 12.2014 Researcher, Experimental Psychology Lab, NBU
Director: Assist. Prof. Penka Hristova

I planned, designed and executed behavioral experiments on analogy-making, constructive memory, concepts and categorization and language comprehension. Other activities included generating stimuli, data analysis, creating e-prime scripts, preparing manuscripts and weekly presentations during seminars.
- 09.2013 - 09.2014 Lab coordinator, Experimental psychology laboratory, NBU
Director: Assist. Prof. Penka Hristova

I was responsible for the day-to-day operations of the lab: preparing schedules, organizing several courses for student participation in experiments for course credit, training of students to run experiments, coordinating the lab resources, etc.

Research interests

Neural mechanisms of memory formation, consolidation and retrieval. Representation of semantic knowledge in the brain. Computational modeling of neural and psychological mechanisms. Other topics: brain-computer interfaces, relational reasoning, concepts and categorization, problem-solving, cognitive modeling, connectionism, philosophy of science

Publications

Peer-reviewed publications

- 2016 Reder, L. M., Liu, X. L., Keinath, A., **Popov, V.** (2016). Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning. *Psychonomic Bulletin & Review*. 23(1), 271-277.
- Popov, V.**, Psederska, E., Peneva, E., Bozgunov, K., Vasilev, G., Nedelchev, D., & Vassileva, J. (In press). Psychometric Characteristics of the Bulgarian Version of the Toronto Alexithymia Scale (TAS-20). *Psychological Research*. (In Bulgarian)
- 2015 **Popov, V.**, Bozgunov, K., Vasilev, G., & Vassileva, J. (2015). Psychometric Characteristics of the Bulgarian Version of Levensons Self-report Psychopathy Scale. *Bulgarian Journal of Psychology*. (In Bulgarian)
- Popov, V.** & Hristova, P. (2015). Unintentional and efficient relational priming. *Memory & Cognition*, 46(6), 866-878.

Peer-reviewed conference proceedings

- 2015 **Popov, V.** (2015). A spreading-activation model of associates retrieval in a discrete free association task. In N. Taatgen, M. van Vugt, J. Borst, & K. Mehlhorn (Eds.), *Proceedings of the 13th International Conference on Cognitive Modeling*. Groenigen: Rijksuniversiteit Groenigen
- 2014 **Popov, V.** & Hristova, P. (2014). Automatic analogical reasoning underlies structural priming in comprehension of ambiguous sentences. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1192-1197). Austin, TX: Cognitive Science Society.
- Popov, V.** & Petkov, G. (2014). The level of processing affects the magnitude of induced retrograde amnesia. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2787-2792). Austin, TX: Cognitive Science Society.

Published abstracts

- 2016 **Popov, V.** & Reder, L. (2016). Semantic-episodic interactions during memory retrieval. In *Abstracts of the 57th Annual Meeting of the Psychonomic Society*. Boston, Massachusetts

- Shen, Z., Reder, L., **Popov, V.**, & Delahay, A. (2016). Symbol Familiarity Interacts With Working Memory Demands During Mathematical Problem-Solving. In *Abstracts of the 57th Annual Meeting of the Psychonomic Society*. Boston, Massachusetts
- Vogt, K., Ibinson, J., Tremel, J., **Popov, V.**, Reder, L., & Fiez, J. (2016). Variability in the Effect of Experimental Pain on Longterm Memory During Sedation with Dexmedetomidine & Midazolam. In *Abstracts of the Anesthesiology 2016 Annual Meeting*. Chicago, IL
- Reder, L. M., Liu, X. L., Keinath, A. & **Popov, V.** (2015). Knowledge construction requires bricks, not sand: The critical role of familiar constituents in learning. *International Meeting of the Psychonomic Society*. Granada, Spain
- 2015 **Popov, V.**, Hristova, P. & Anders, R. (2015). Retrieval of relational information during associative recognition. In *Abstracts of the 56th Annual Meeting of the Psychonomic Society*. Chicago, IL
- Reder, L. M., Liu, X. L., Keinath, A. & **Popov, V.** (2015). Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning. In *Abstracts of the 56th Annual Meeting of the Psychonomic Society*. Chicago, IL
- 2014 **Popov, V.** & Hristova, P. (2014). Unconscious, unintended and efficient analogies in lexical decision under dual-task conditions. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Popov, V.** & Hristova, P. (2014). Priming thematic structure during sentence comprehension in the absence of syntactic repetition. In *Abstracts of the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- Popov, V.** (2014). Malleability of the basic level effect in categorical induction for biological categories. In *Abstracts of the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- 2013 **Popov, V.** (2013). Fixation on Failure: Failing to Solve a Problem Hinders Subsequent Problem-Solving Ability. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (p. 4080). Austin, TX: CSS.

Works in progress

- Popov, V.**, Hristova, P., & Anders, R. (revise and resubmit). Retrieval of relational information during associative recognition. *Journal of Experimental Psychology: General*
- Manelis, A., **Popov, V.**, Paynter, C., Walsh, M., Wheeler, M., Reder, L. (under review). Cortical Networks Involved in Memory for Temporal Order. *Journal of Cognitive Neuroscience*
- Popov, V.** & Reder, L. (in preparation). We do not know what we know: A call for a theory-neutral database for empirical results in psychology.
- Popov, V.** & Reder, L. (in preparation). Overlap and dissociability in the neural networks that support semantic vs episodic memory judgements.

Invited presentations

- 2016 Workshop on Memory and Skill, Duke University, Durham, North Carolina, April 2016.
Not knowing what we know: A call for a theory-neutral database for empirical results in psychology.
 [Invited talk]

Conference presentations

- 2016 Semantic-Episodic Interactions During Memory Retrieval. *Poster presented at Psychonomic Society's 57th Annual Meeting.* Boston, Massachusetts

- 2015 Retrieval of relational information during associative recognition. *Poster presented at Psychonomic Society's 56th Annual Meeting.* Chicago, Illinois

Retrieval of relational information during associative recognition. *Poster presented at the Center for the Neural Basis of Cognition Annual Retreat.* Pittsburgh, PA.

A spreading-activation model of associates retrieval in a discrete free association task. *Poster presented at the 13th International Conference on Cognitive Modeling.* Groenigen, Germany

Unintentional relational priming. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Kazanlak, Bulgaria

- 2014 Priming of relations: Unintended, unconscious and efficient. *Oral presentation during the European Campus of Excellence Summer School in Memory and Mind: Perspectives from Philosophy and Neuroscience.* Germany, Bochum: Ruhr University Bochum

Automatic analogical reasoning underlies structural priming in comprehension of ambiguous sentences. *Oral presentation at the 36th Annual Conference of the Cognitive Science Society.* Quebec City, Canada.

The level of processing affects the magnitude of induced retrograde amnesia. *Poster presented at the 36th Annual Conference of the Cognitive Science Society.* Quebec City, Canada.

Unconscious, unintended and efficient analogies in lexical decision under dual-task conditions. *Poster presented at the 36th Annual Conference of the Cognitive Science Society.* Quebec City, Canada.

Malleability of the basic level effect in categorical induction for biological categories. *Poster presented at the VI. Dubrovnik Conference on Cognitive Science.* Dubrovnik, Croatia.

Priming thematic structure during sentence comprehension in the absence of syntactic repetition. *Poster presented at the VI. Dubrovnik Conference on Cognitive Science.* Dubrovnik, Croatia.

Retrograde amnesia as a function of the level of processing. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Belmeken, Bulgaria: NBU

Automatic analogies in language comprehension. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Belmeken, Bulgaria: NBU

- 2013 Fixation on Failure: Failing to Solve a Problem Hinders Subsequent Problem-Solving Ability. *Poster presented at the 35th Annual Conference of the Cognitive Science Society.* Austin, TX: Cognitive Science Society.

Demonstrating automatic analogies in structural ambiguity comprehension. *Oral presentation at a participant symposium during the 20th International Summer School in Cognitive Science.* Sofia, Bulgaria: New Bulgarian University

Experiencing failure increases problem-solving time in current performance. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Ribaritzha, Bulgaria: NBU

Professional activities

Memberships

Cognitive Neuroscience Society, student member - 2016

Psychonomic Society, student member - 2015

Cognitive Science Society (CSS), student member - 2013, 2014

Central European Cognitive Science Association (CECOG), member - 2014, 2015

Ad hoc Reviewer

Quarterly Journal of Experimental Psychology

Attention, Perception & Psychophysics

Cognitive Science Society Conference

Scholarships and Awards

- 2015 - 2016 Presidential Fellowship in the Life Sciences
Richard King Mellon Foundation

- 2014 - 2015 Full academic scholarship
New Bulgarian University

- 2014 Scholarship for attending "European Campus of Excellence Summer School"
Stiftung Mercator

- 2013 - 2015 Fifteen research excellency awards
"Student scholarships", European Union

- 2012 - 2015 Academic excellence scholarships
"Student scholarships", European Union

- 2012 - 2013 Full academic scholarship
Sofia University "St. Kliment Ohridsky"

Additional education and professional training

European Campus of Excellence Summer School, Memory and Mind: Perspectives from Philosophy and Neuroscience. Germany, Bochum: Ruhr University Bochum, 7-21 September (2014)

20th International Summer School in Cognitive Science. Sofia, Bulgaria: NBU (2013)

19th International Summer School in Cognitive Science. Sofia, Bulgaria: NBU (2012)

Winter School in Cognitive Science. Belmeken, Bulgaria: NBU (2014)

Winter School in Cognitive Science. Ribaritzha, Bulgaria: NBU (2013)

Other information

Technical competencies

Data analysis, modeling and visualization with R (lme4, ggplot, R2jags, rube, RMarkdown, etc)

Matlab (SPM12), Python (nipy), Freesurfer

SPSS, LaTeX, Advanced MS OFFICE skills

E-prime 2.0, OpenSesame, Python

Basic knowledge in PHP, HTML, MYSQL, Photoshop

Language competencies

Bulgarian (mother tongue) | English (116/120 TOEFL) | German (A2 in the European Framework)

Graduate record examination (GRE)

VR: 167/170; 97 percentile rank; QR: 170/170; 98 percentile rank, AW: 5.0/6.0; 93 percentile rank