RESEARCH ARTICLE

Journal of Problem Solving

Human Problem Solving in 2012

Joachim Funke[1]

[1] *Department of Psychology, University of Heidelberg*

Correspondence:
Joachim Funke, Department of Psychology, Heidelberg University, Hauptstr. 47, D-69117 Heidelberg, Germany; Phone: +49 6221 547388. Email: funke@uni-hd.de

Keywords:
problem solving, bibliography

This paper presents a bibliography of 263 references related to human problem solving, arranged by subject matter. The references were taken from PsycInfo and Academic Premier database. Journal papers, book chapters, and dissertations are included. The topics include human development, education, neuroscience, and research in applied settings. It is argued that researchers are more and more engaged with problem solving research because of its centrality in human actions and because society needs advice from science in understanding and solving complex problems.

Thinking and problem solving has been an issue in basic psychological research since its beginnings in the 19th century. The first ideas came from Oswald Külpe who—in the late 1890s—invented in his Würzburg lab the method of "systematic experimental introspection," a technique that required extensive retrospective reports from trained subjects about their perceived internal processes during their problem solving activities while working on complex intellectual tasks. This method provoked Wilhelm Wundt, the experimentalist, who rejected introspection for methodological reasons. The early Gestaltists (Karl Duncker, Max Wertheimer) followed a systems approach to thinking that was based on perceptual processes of restructuring. Their problems relied on visualization and processes near to perception, forming a Gestalt solution out of the problem particles.

With the advent of behaviorism and with the reign of terror during World War II, that analysis of higher cognitive processes has gone lost. The recovered interest in problem solving in the times of the Cognitive Revolution around the mid 1950s led to an increasing interest in internal processes and the search for a General Problem Solver. But, as Stellan Ohlsson (2012) wrote in this journal, "Newell and Simon's search for general problem solving strategies failed. Paradoxically, the theoretical vision that led them to search elsewhere for general principles led researchers away from studies of complex problem solving." So, what is the stand of problem solving research in the 21st century in terms of published articles?

For the years 2006, 2008, and 2010, comprehensive bibliographies of problem solving research were collected and commentated by Zygmunt Pizlo (see Pizlo, 2007, 2009, 2010). In his last review, he was a bit pessimistic: "There is no indication that volume of research on human problem solving is increasing. The number of published reports is substantially smaller than in other areas of cognition, such as perception or learning and memory. It seems that the lack of reliable experimental methodology, as well as the absence of theoretical foundations are responsible for this state of affairs" (Pizlo, 2010, p. 52). With this bibliography from 2012, I want to bring a bit more optimism back to the reader: from my point of view, problem solving as a concept and as a research issue is gaining more interest than before.

Based on activities in 2011 and 2012, there is an emerging bulk of research on what is called "complex problem solving" in the tradition of Sternberg and Frensch (1991), Frensch and Funke (1995), as well as Dörner (1997), using microworlds and computer-simulated scenarios as tools for the assessment of problem solving (see Brehmer & Dörner, 1993; Gray, 2002). The growing interest has to do with several developments, one of them being a recent shift in the understanding of problem solving by the OECD (Organization for Economic Cooperation and Development, Paris) that runs the international large-scale assessment enterprise called PISA (Programme for International Student Assessment). PISA is intended to compare and improve the quality of national education systems because the next generation's workforce needs better education than ever. On their webpage (http://www.oecd.org/pisa/aboutpisa/), the OECD describes PISA as follows: "Since the year 2000, every three years, a randomly selected group of fifteen-year-olds take tests in the key subjects: reading, mathematics and science, with focus given to one subject in each year of assessment. The students and their school principals also fill in background questionnaires to provide information on the students' family background and the way their schools are run. Some countries and economies also choose to have parents fill in a questionnaire. In 2000 the focus of the assessment was reading, in 2003 mathematics and problem solving, in 2006 science and in 2009 reading again." In 2012, about 500,000 pupils from more than 60 countries have been assessed and the focus domain in that wave has been problem solving!

As I said before: there was a major shift in the conceptualization of problem solving competencies: whereas in PISA 2003 (when problem solving was first in the focus) analytical,

http://dx.doi.org/10.7771/1932-6246.1156

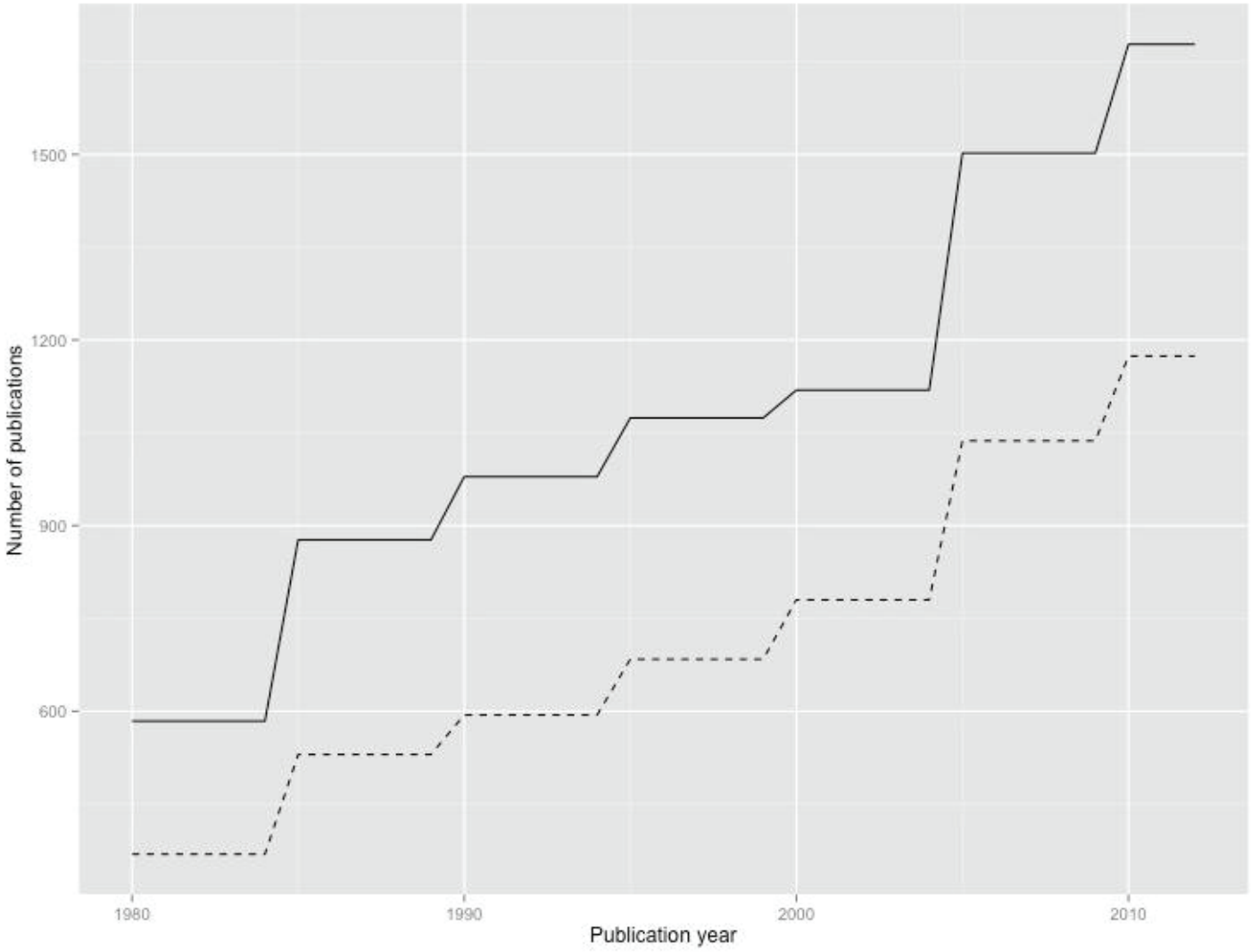

Figure 1.
Number of publications with keyword "PROBLEM SOLVING" in any field between 1980 and 2013, from PsycInfo database (in 5-year groups). Solid line: total number, dashed line: peer-reviewed publications only.

static problem solving was assessed by means of paper-pencil-tasks, in PISA 2012 (when problem solving was again in the focus) dynamic, interactive problem solving was assessed for the first time in PISA by means of computer-based testing (see Greiff et al., 2013).

Therefore, I see a growing interest in problem solving as an issue in itself. All world-wide or at least nation-wide operating large-scale assessments that are currently on the run besides PISA (e.g., ATC21, Assessment and Teaching of 21st Century Skills, http://atc21s.org/; P21, Partnership for 21st Century Skills, http://www.p21.org/; PIAAC, Program for the International Assessment of Adult Competencies, http://nces.ed.gov/surveys/piaac/) do include measures for problem solving. Problem solving is seen as a key competency in a world full of uncertainty (Osman, 2010) and full of potential obstacles on our way to societal goal states of peace, food, and justice. Isn't that a success story? Accordingly, the absolute number of publications with the keyword "problem solving" (in all fields) per year that can be found in the PsycInfo database shows a steady increase (see Figure 1).

In the period between 2005 and 2010 especially, one can see a marked increase that supports my assumption of a growing interest in our issues, the increase in the total documents being steeper than in the peer-reviewed ones—once again a potential indicator for public interest that is responsible for the higher number of non-peer-reviewed papers.

The diversity of outlet journals has also increased: whereas in 2010, only 56 different journals were mentioned, in 2012 it is the amazing number of 171 journal titles from all fields of psychology and above. Concerning different sections in the following bibliography, in most areas slight to moderate increases can be documented, with education having a

strong growth from 15 to 39 publications. Reasons for that have been mentioned before. Also, the new clinical category (with n=34 starting on a high level) shows the high application interest in our topic. Against expectations, the "Neuroscience" category has only a small increase (from 5 to 9); maybe problem solving (as a coordinated action of higher order processes) is not easily analyzed by means of functional imaging techniques.

THREE "MAYBES" AS RECOMMENDATIONS FOR FUTURE BIBLIOGRAPHIES

1. Maybe the restriction to one year of publication activity is a time window too small for the identification of trends. To iterate the bibliography not every year but every two years seems reasonable—but to have a time window of one year might be a bit short. Recommendation 1: Why not choose a time window of two years that is reported every two years?
2. Maybe "problem solving" should not be the only keyword to search for. Research on complex problem solving, for example, comes under different labels like "dynamic decision making" (Coty Gonzalez, e.g., Gonzalez & Dutt, 2011), "complex dynamic control" (Magda Osman, e.g., 2010), or "naturalistic decision making" (Gary Klein, e.g., 2008). Search in databases is restricted to certain keywords that sometimes do not reflect the broader context and the similarities in content despite of different labels. Recommendation 2: Why not enlarge the search space in terms of broader keywords?
3. Maybe PsycInfo should not be the only database to rely on because interdisciplinary work on problem solving does not completely show up there. For example, my own work with the mathematician Sebastian Sager (on the optimization methods for complex problem solving in the case of the microworld "Tailorshop"; Sager et al., 2011) is published in one of the mathematical journals (SIAM Journal on Optimization) that were not indexed in PsycInfo. As a consequence, one should search for problem solving more carefully also in other related databases to reach a nearly complete coverage. Recommendation 3: Why not enlarge the search space in terms of more databases?

CONCLUSION

For me, the fate of problem solving research looks fine! For good or for bad, the world around us is full of problems (always remember the saying from Sir Karl Popper: "all life is problem solving") and we are not finished with our research duties! Progress in theory is urgently needed, but as it happens often in science: with the advent of new research paradigms also new theoretical constructs do emerge. With the advent of computer-based microworlds, new methods for process tracing have been (and still have to be) developed, new constructs have to be defined, theories have to be adjusted. I am quite optimistic that problem solving research is not only increasing in the next years but that society is in urgent need for new insights about the way humans deal with complexity and uncertainty.

ACKNOWLEDGMENTS

This research was supported by a grant from the German Research Foundation (DFG Fu 173/14-2) to the author.

REFERENCES

Brehmer, B., & Dörner, D. (1993). Experiments with computer-simulated microworlds: Escaping both the narrow straits of the laboratory and the deep blue sea of the field study. *Computers in Human Behavior, 9*(2–3), 171–184. http://dx.doi.org/10.1016/0747-5632(93)90005-D

Dörner, D. (1997). *The logic of failure: Recognizing and avoiding error in complex situations*. New York: Basic Books.

Frensch, P. A., & Funke, J. (Eds.). (1995). *Complex problem solving: The European perspective*. Hillsdale, NJ: Lawrence Erlbaum.

Gonzalez, C., & Dutt, V. (2011). A generic dynamic control task for behavioral research and education. *Computers in Human Behavior, 27*(5), 1904–1914. http://dx.doi.org/10.1016/j.chb.2011.04.015

Gray, W. D. (2002). Simulated task environments: The role of high-fidelity simulations, scaled worlds, synthetic environments, and laboratory tasks in basic and applied cognitive research. *Cognitive Science Quarterly, 2*, 205–227.

Greiff, S., Wüstenberg, S., Holt, D. V., Goldhammer, F., & Funke, J. (2013). Computer-based assessment of complex problem solving: Concept, implementation, and application. *Educational Technology Research & Development, 61*(3), 407–421. http://dx.doi.org/10.1007/s11423-013-9301-x

Klein, G. (2008). Naturalistic decision making. *Human Factors, 50*, 456–460. http://dx.doi.org/10.1518/001872008X288385

Ohlsson, S. (2012). The problems with problem solving: Reflections on the rise, current status, and possible future keywords. *Journal of Problem Solving*, *5*(1), 101–128. http://dx.doi.org/10.7771/1932-6246.1144

Osman, M. (2010). Controlling uncertainty: A review of human behavior in complex dynamic environments. *Psychological Bulletin, 136*(1), 65–86. http://dx.doi.org/10.1037/a0017815

Pizlo, Z. (2007). Human problem solving in 2006. *Journal of Problem Solving*, *1*(2), 6–17. http://dx.doi.org/10.7771/1932-6246.1016

Pizlo, Z. (2009). Human problem solving in 2008. *Journal of Problem Solving*, *2*(1), 50–71. http://dx.doi.org/10.7771/1932-6246.1042

Pizlo, Z. (2010). Human problem solving in 2010. *Journal of Problem Solving*, *4*(1), 52–61. http://dx.doi.org/10.7771/1932-6246.1120

Sager, S., Barth, C., Diedam, H., Engelhart, M., & Funke, J. (2011). Optimization as an analysis tool for human complex decision making. *SIAM Journal on Optimization, 21*(3), 936–959. http://dx.doi.org/10.1137/11082018X

Sternberg, R. J., & Frensch, P. A. (Eds.). (1991). *Complex problem solving: Principles and mechanisms*. Hillsdale, NJ: Lawrence Erlbaum.

LIST OF JOURNALS

(The number of publications per each journal, if greater than one, is shown in parentheses)

Academy of Management Learning & Education
Acta Paediatrica
Acta Psychiatrica Scandinavica
Acta Psychologica Sinica (3)
Addictive Behaviors
Advances in Developing Human Resources
Advances in Health Sciences Education
AIP Conference Proceedings
American Annals of the Deaf
American Journal of Community Psychology
American Journal of Primatology (2)
Animal Behaviour
Animal Cognition
Annales Médico-Psychologiques
Applied Cognitive Psychology (3)
Applied Psychological Measurement
Applied Psychology: An International Review
Archives of Suicide Research (2)
Brain and Cognition (2)
Brain Stimulation
British Journal of Educational Psychology
British Journal of Educational Technology (2)
British Journal of Health Psychology
Bulletin of Educational Psychology
Canadian Journal of Occupational Therapy / Revue Canadienne D'Ergothérapie
Child Development
Chinese Journal of Clinical Psychology
Cognition and Emotion
Cognitive Processing
Cognitive Science
Cognitive Systems Research
Cognitive Therapy and Research
Comprehensive Psychiatry
Computers & Education (8)
Computers in Human Behavior (4)
Consciousness and Cognition: An International Journal (5)
Contemporary Educational Psychology
Creativity Research Journal (4)
Critical Social Policy
Cultural Diversity and Ethnic Minority Psychology
Current Directions in Psychological Science
Development & Change
Developmental Cognitive Neuroscience (2)
Developmental Neuropsychology
Drug and Alcohol Review
Early Childhood Education Journal (2)
Early Childhood Research Quarterly
Education & Treatment of Children
Educational Technology Research and Development (3)
Electronic Journal of Research in Educational Psychology
Eurasia Journal of Mathematics, Science & Technology Education
European Journal of Engineering Education
European Journal of Psychology of Education
Experimental Aging Research
Expert Systems: International Journal of Knowledge Engineering and Neural Networks
Family & Community Health: The Journal of Health Promotion & Maintenance
Family Court Review
Farmers Weekly
Games and Economic Behavior
Group Decision and Negotiation
Health Psychology
Human Factors and Ergonomics in Manufacturing & Service Industries
Human Relations
Industrial Marketing Management
Instructional Science
Intelligence
Intelligent Data Analysis
International Journal of Early Years Education
International Journal of Geriatric Psychiatry (4)
International Journal of Intercultural Relations
International Journal of Psychophysiology
Japanese Journal of Special Education
Journal for the Education of the Gifted
Journal for the Scientific Study of Religion
Journal of Applied Psychology
Journal of Autism and Developmental Disorders
Journal of Behavior Therapy and Experimental Psychiatry
Journal of Business Ethics (2)
Journal of Classroom Interaction
Journal of Clinical Nursing

Journal of Cognition and Culture
Journal of Cognitive Education and Psychology
Journal of Community Psychology
Journal of Constructivist Psychology
Journal of Economic Behavior & Organization
Journal of Educational and Developmental Psychology
Journal of Educational Psychology (3)
Journal of Educational Technology & Society (2)
Journal of Experimental Child Psychology
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Learning, Memory, and Cognition
Journal of Interactive Learning Research
Journal of Learning Disabilities
Journal of Loss and Trauma
Journal of Management Studies
Journal of Marketing Research
Journal of Neural Transmission
Journal of Occupational Health Psychology
Journal of Pragmatics
Journal of Problem Solving
Journal of Public Relations Research
Journal of School Psychology
Journal of Science Education and Technology (2)
Journal of Social Work in End-of-Life & Palliative Care
Journal of the Indian Academy of Applied Psychology
Journal of the Learning Sciences
Journal of the Neurological Sciences
Knowledge-Based Systems (2)
Kuram ve Uygulamada Eğitim Bilimleri
L'Année Psychologique
Learning and Individual Differences
Learning Disability Quarterly
Medical Teacher
Memory & Cognition
Metacognition and Learning (2)
Mind & Society
Neural Networks
Neurocomputing: An International Journal (3)
NeuroImage
Neuropsychologia
Organizational Research Methods
Paidéia
Pakistan Journal of Psychological Research
Palliative Medicine
Personality and Individual Differences
PLoS ONE
Population Health Management
Prevention Science
Psicologia dell'educazione
Psychiatria Hungarica
Psychiatry Research
Psycho-Oncology
Psychological Medicine
Psychological Reports
Psychological Test and Assessment Modeling
Psychologie Française
Psychologische Rundschau
Psychology
Psychology in the Schools
Psychology of Men & Masculinity
Psychonomic Bulletin & Review (2)
Psychotherapie Psychosomatik Medizinische Psychologie
Quality & Quantity: International Journal of Methodology
Rehabilitation Psychology
Research and Theory for Nursing Practice: An International Journal
Research in Developmental Disabilities
Research in Nursing & Health
Scandinavian Journal of Caring Sciences (2)
School Social Work Journal
Science Education (2)
Social Development (2)
Social Networks
Social Psychiatry and Psychiatric Epidemiology
Social Science International
South African Journal of Psychology
Studia Psychologica
Systems Research and Behavioral Science (2)
Teaching and Teacher Education
The Academy of Management Perspectives
The Diabetes Educator
The International Journal of Creativity & Problem Solving (4)
The Journal of Creative Behavior 82)
The Journal of Educational Research
The Journal of Mathematical Behavior (5)
The Psychologist
The psychology of learning and motivation (2)
Theoretical Issues in Ergonomics Science
Thinking & Reasoning (2)
Thinking Skills and Creativity (2)
Work: Journal of Prevention, Assessment & Rehabilitation
Zeitschrift für Erziehungswissenschaft

GENERAL (47, +12)

The first figure represents the absolute value in 2012 for the given category, the second the change compared to 2010.

Ackerman, R., & Zalmanov, H. (2012). The persistence of the fluency–confidence association in problem solving. *Psychonomic Bulletin & Review, 19*(6), 1187–1192. http://dx.doi.org/10.3758/s13423-012-0305-z

Anderson, K. A. (2012). Specialists and generalists: Equilibrium skill acquisition decisions in problem-solving populations. *Journal of Economic Behavior & Organization, 84*(1), 463–473. http://dx.doi.org/10.1016/j.jebo.2012.08.003

Arslan, E., Arslan, C., & Ari, R. (2012). An investigation of interpersonal problem solving approaches with respect to attachment styles. *Kuram ve Uygulamada Eğitim Bilimleri, 12*(1), 15–23.

Bassok, M., & Novick, L. R. (2012). Problem solving. In K. J. Holyoak & R. G. Morrison (Eds.), *The Oxford handbook of thinking and reasoning* (pp. 413–432). New York: Oxford University Press.

Brown, A. D., Dorfman, M. L., Marmar, C. R., & Bryant, R. A. (2012). The impact of perceived self-efficacy on mental time travel and social problem solving. *Consciousness and Cognition: An International Journal, 21*(1), 299–306. http://dx.doi.org/10.1016/j.concog.2011.09.023

Canham, M. S., Wiley, J., & Mayer, R. E. (2012). When diversity in training improves dyadic problem solving. *Applied Cognitive Psychology, 26*(3), 421–430. http://dx.doi.org/10.1002/acp.1844

Chan, J., Paletz, S. B. F., & Schunn, C. D. (2012). Analogy as a strategy for supporting complex problem solving under uncertainty. *Memory & Cognition, 40*(8), 1352–1365. http://dx.doi.org/10.3758/s13421-012-0227-z

Cornoldi, C., Drusi, S., Tencati, C., Giofrè, D., & Mirandola, C. (2012). Problem solving and working memory updating difficulties in a group of poor comprehenders. *Journal of Cognitive Education and Psychology, 11*(1), 39–44. http://dx.doi.org/10.1891/1945-8959.11.1.39

Currya, O., & Chesters, M. J. (2012). 'Putting ourselves in the other fellow's shoes': The role of 'Theory of Mind' in solving coordination problems. *Journal of Cognition and Culture, 12*(1–2), 147–159. http://dx.doi.org/10.1163/156853712X633974

Deininger, G., Loudon, G., & Norman, S. (2012). Modal preferences in creative problem solving. *Cognitive Processing, 13*(Suppl 1), S147–S150. http://dx.doi.org/10.1007/s10339-012-0479-3

Dennis, A. A., Astell, A., & Dritschel, B. (2012). The effects of imagery on problem-solving ability and autobiographical memory. *Journal of Behavior Therapy and Experimental Psychiatry, 43*(Suppl 1), S4–S11. http://dx.doi.org/10.1016/j.jbtep.2011.06.002

Dupays, A., & Didierjean, A. (2012). Impact du mode d'organisation de la tâche en résolution de problèmes sur la réussite et l'apprentissage. Résolution de problèmes et apprentissage. *Psychologie Française, 57*(1), 1–15. http://dx.doi.org/10.1016/j.psfr.2012.02.001

Erbas, A. K., & Okur, S. (2012). Researching students' strategies, episodes, and metacognitions in mathematical problem solving. *Quality & Quantity: International Journal of Methodology, 46*(1), 89–102. http://dx.doi.org/10.1007/s11135-010-9329-5

Ghorbani, N., Watson, P. J., Saeedi, Z., Chen, Z., & Silver, C. F. (2012). Religious problem solving and the complexity of religious rationality within an Iranian Muslim ideological surround. *Journal for the Scientific Study of Religion, 51*(4), 656–675. http://dx.doi.org/10.1111/j.1468-5906.2012.01686.x

Gómez, E., & Rodríguez-Marciel, C. (2012). PGDnet: A new problem-solving virtual learning environment. *British Journal of Educational Technology, 43*(4), 576–591. http://dx.doi.org/10.1111/j.1467-8535.2011.01224.x

Green, A. J. K., & Gilhooly, K. (2012). Problem solving. In N. Braisby & A. Gellatly (Eds.), *Cognitive psychology* (2nd ed., pp. 301–333). New York: Oxford University Press.

Hambrick, D. Z., Libarkin, J. C., Petcovic, H. L., Baker, K. M., Elkins, J., Callahan, C. N., . . . & LaDue, N. D. (2012). A test of the circumvention-of-limits hypothesis in scientific problem solving: The case of geological bedrock mapping. *Journal of Experimental Psychology: General, 141*(3), 397–403. http://dx.doi.org/10.1037/a0025927

Hasnas, J. (2012). Reflections on corporate moral responsibility and the problem solving technique of Alexander the Great. *Journal of Business Ethics, 107*(2), 183–195. http://dx.doi.org/10.1007/s10551-011-1032-5

Hester, K. S., Robledo, I. C., Barrett, J. D., Peterson, D. R., Hougen, D. P., Day, E. A., & Mumford, M. D. (2012). Causal analysis to enhance creative problem-solving: Performance and effects on mental models. *Creativity Research Journal, 24*(2–3), 115–133. http://dx.doi.org/10.1080/10400419.2012.677249

Jacobse, A. E., & Harskamp, E. G. (2012). Towards efficient measurement of metacognition in mathematical problem solving. *Metacognition and Learning, 7*(2), 133–149. http://dx.doi.org/10.1007/s11409-012-9088-x

Jarosz, A. F., Colflesh, G. J. H., & Wiley, J. (2012). Uncorking the muse: Alcohol intoxication facilitates creative problem solving. *Consciousness and Cognition: An International Journal, 21*(1), 487–493. http://dx.doi.org/10.1016/j.concog.2012.01.002

Jitendra, A. K., & Star, J. R. (2012). An exploratory study contrasting high- and low-achieving students' percent word problem solving. *Learning and Individual Differences, 22*(1), 151–158. http://dx.doi.org/10.1016/j.lindif.2011.11.003

Kotsopoulos, D., & Lee, J. (2012). A naturalistic study of executive function and mathematical problem-solving. *The Journal of Mathematical Behavior, 31*(2), 196–208. http://dx.doi.org/10.1016/j.jmathb.2011.12.005

Li, Y.-D., Ma, W.-J., Luo, J.-L., & Zhang, Q.-L. (2012). Competition and emotion impact on effect of prototype elicitation during insight problem solving. *Acta Psychologica Sinica, 44*(1), 1–13.

Lu, J., Zhou, L.-q., & Yu, J. (2012). Eye movement during solving arithmetic word problems of children with mathematics disabilities. *Chinese Journal of Clinical Psychology, 20*(5), 631–634.

Megalakaki, O., Tijus, C., Baiche, R., & Poitrenaud, S. (2012). The effect of semantics on problem solving is to reduce relational complexity. *Thinking & Reasoning, 18*(2), 159–182. http://dx.doi.org/10.1080/13546783.2012.663101

Moore, K. C., & Carlson, M. P. (2012). Students' images of problem contexts when solving applied problems. *The Journal of Mathematical Behavior, 31*(1), 48–59. http://dx.doi.org/10.1016/j.jmathb.2011.09.001

Newton, J. S., Horner, R. H., Todd, A. W., Algozzine, R. F., & Algozzine, K. M. (2012). A pilot study of a problem-solving model for team decision making. *Education & Treatment of Children, 35*(1), 25–49. http://dx.doi.org/10.1353/etc.2012.0001

Nokes-Malach, T. J., Meade, M. L., & Morrow, D. G. (2012). The effect of expertise on collaborative problem solving. *Thinking & Reasoning, 18*(1), 32–58. http://dx.doi.org/10.1080/13546783.2011.642206

Ohlsson, S. (2012). The problems with problem solving: Reflections on the rise, current status, and possible future keywords. *Journal of Problem Solving, 5*(1), 101–128. http://dx.doi.org/10.7771/1932-6246.1144

Pagliaro, C. M., & Ansell, E. (2012). Deaf and hard of hearing students' problem-solving strategies with signed arithmetic story problems. *American Annals of the Deaf, 156*(5), 438–458. http://dx.doi.org/10.1353/aad.2012.1600

Powell, S. R. (2012). High-stakes testing for students with mathematics difficulty: Response format effects in mathematics problem solving. *Learning Disability Quarterly, 35*(1), 3–9.

Ribeiro, E., Feixas, G., Maia, Â., Senra, J., & Dada, G. (2012). Changes in the construct systems of first-year university students: Impact on psychological symptoms and problem-solving skills. *Journal of Constructivist Psychology, 25*(2), 170–180. http://dx.doi.org/10.1080/10720537.2012.629119

Sarmány-Schuller, I., & Kuračka, P. (2012). Dimension of the cognitive style 'analytical-intuitive' and the successful problem solving in the 'IGT' experimental situation. *Studia Psychologica, 54*(2), 95–108.

Schmitt, A., Zacher, H., & Frese, M. (2012). The buffering effect of selection, optimization, and compensation strategy use on the relationship between problem solving demands and occupational well-being: A daily diary study. *Journal of Occupational Health Psychology, 17*(2), 139–149. http://dx.doi.org/10.1037/a0027054

Shapiro, D. L. (2012). Creative problem solving: Not just about the problem! In P. R. Coleman & M. Deutsch (Eds.), *The psychological components of sustainable peace* (pp. 85–104). New York: Springer Science.

Sosnowski, T., Sobota, A., & Rynkiewicz, A. (2012). Program running versus problem solving: Two patterns of cardiac response. *International Journal of Psychophysiology, 86*(2), 187–193. http://dx.doi.org/10.1016/j.ijpsycho.2012.09.004

Sumi, K. (2012). Relationship of social problem-solving ability with interpersonal relationships: A prospective study among Japanese women and men. *Psychological Reports, 111*(3), 929–937. http://dx.doi.org/10.2466/21.20.28.PR0.111.6.929-937

Suzuki, T. (2012). Competitive problem solving and the optimal prize schemes. *Games and Economic Behavior, 75*(2), 1009–1013. http://dx.doi.org/10.1016/j.geb.2012.02.016

Tsai, M.-J., Hou, H.-T., Lai, M.-L., Liu, W.-Y., & Yang, F.-Y. (2012). Visual attention for solving multiple-choice science problem: An eye-tracking analysis. *Computers & Education, 58*(1), 375–385. http://dx.doi.org/10.1016/j.compedu.2011.07.012

van Gog, T., & Kester, L. (2012). A test of the testing effect: Acquiring problem-solving skills from worked examples. *Cognitive Science, 36*(8), 1532–1541. http://dx.doi.org/10.1111/cogs.12002

Walker, O. L., & Henderson, H. A. (2012). Temperament and social problem solving competence in preschool: Influences on academic skills in early elementary school. *Social Development, 21*(4), 761–779. http://dx.doi.org/10.1111/j.1467-9507.2011.00653.x

Wiley, J., & Jarosz, A. F. (2012). Working memory capacity, attentional focus, and problem solving. *Current Directions in Psychological Science, 21*(4), 258–262. http://dx.doi.org/10.1177/0963721412447622

Woodel-Johnson, B. L., Delcourt, M., & Treffinger, D. J. (2012). Relationships between creative thinking and problem solving styles among secondary school students. *The International Journal of Creativity & Problem Solving, 22*(2), 79–95.

Yi, S. K. M., Steyvers, M., Lee, M. D., & Dry, M. J. (2012). The wisdom of the crowd in combinatorial problems. *Cognitive Science, 36*, 452–470.

Youssef, A., Ayres, P., & Sweller, J. (2012). Using general problem-solving strategies to generate ideas in order to solve geography problems. *Applied Cognitive Psychology, 26*(6), 872–877. http://dx.doi.org/10.1002/acp.2888

Zabelina, D. L., Guzman-Martinez, E., Ortega, L., Grabowecky, M., Suzuki, S., & Beeman, M. (2012). Suppressed semantic information accelerates analytic problem solving. *Psychonomic Bulletin & Review, 20*(3), 581–585. http://dx.doi.org/10.3758/s13423-012-0364-1

DEVELOPMENTAL (16, +11)

Ardiale, E., Hodzik, S., & Lemaire, P. (2012). Aging and strategy switch costs: A study in arithmetic problem solving.

L'Année Psychologique, 112(3), 345–360. http://dx.doi.org/10.4074/S0003503312003028

Ashkenazi, S., Rosenberg-Lee, M., Tenison, C., & Menon, V. (2012). Weak task-related modulation and stimulus representations during arithmetic problem solving in children with developmental dyscalculia. *Developmental Cognitive Neuroscience, 2*(Suppl 1), S152–S166. http://dx.doi.org/10.1016/j.dcn.2011.09.006

Bailey, D. H., Littlefield, A., & Geary, D. C. (2012). The codevelopment of skill at and preference for use of retrieval-based processes for solving addition problems: Individual and sex differences from first to sixth grades. *Journal of Experimental Child Psychology, 113*(1), 78–92. http://dx.doi.org/10.1016/j.jecp.2012.04.014

Bryce, D., & Whitebread, D. (2012). The development of metacognitive skills: Evidence from observational analysis of young children's behavior during problem-solving. *Metacognition and Learning, 7*(3), 197–217. http://dx.doi.org/10.1007/s11409-012-9091-2

Charlesworth, R., & Leali, S. A. (2012). Using problem solving to assess young children's mathematics knowledge. *Early Childhood Education Journal, 39*(6), 373–382. http://dx.doi.org/10.1007/s10643-011-0480-y

Gloeckler, L., & Cassell, J. (2012). Teacher practices with toddlers during social problem solving opportunities. *Early Childhood Education Journal, 40*(4), 251–257. http://dx.doi.org/10.1007/s10643-011-0495-4

Johnson, M., Östlund, S., Fransson, G., Landgren, M., Nasic, S., Kadesjö, B., . . . & Fernell, E. (2012). Attention-deficit/hyperactivity disorder with oppositional defiant disorder in Swedish children: An open study of collaborative problem solving. *Acta Paediatrica, 101*(6), 624–630. http://dx.doi.org/10.1111/j.1651-2227.2012.02646.x

Kimbler, K. J., Margrett, J. A., & Johnson, T. L. (2012). The role of supportive messages and distracting thoughts on everyday problem-solving performance. *Experimental Aging Research, 38*(5), 537–558. http://dx.doi.org/10.1080/0361073X.2012.726158

Kimhi, Y., & Bauminger-Zviely, N. (2012). Collaborative problem solving in young typical development and HFASD. *Journal of Autism and Developmental Disorders, 42*(9), 1984–1997. http://dx.doi.org/10.1007/s10803-012-1447-6

Martin, J. P., Stack, D. M., Serbin, L. A., Schwartzman, A. E., & Ledingham, J. (2012). Social problem solving in high-risk mother-child dyads: An intergenerational study. *Social Development, 21*(1), 47–67. http://dx.doi.org/10.1111/j.1467-9507.2011.00600.x

Nader-Grosbois, N., & Lefèvre, N. (2012). Parents' regulation and self-regulation and performance in children with intellectual disability in problem-solving using physical materials or computers. *Research in Developmental Disabilities, 33*(2), 449–460. http://dx.doi.org/10.1016/j.ridd.2011.10.005

Passolunghi, M. C., & Mammarella, I. C. (2012). Selective spatial working memory impairment in a group of children with mathematics learning disabilities and poor problem-solving skills. *Journal of Learning Disabilities, 45*(4), 341–350. http://dx.doi.org/10.1177/0022219411400746

Schmid, T. (2012). An interdisciplinary-vision for creativity and creative problem solving: A health science perspective in regional Australia. *The International Journal of Creativity & Problem Solving, 22*(1), 77–96.

Shiakalli, M. A., & Zacharos, K. (2012). The contribution of external representations in pre-school mathematical problem solving. *International Journal of Early Years Education, 20*(4), 315–331. http://dx.doi.org/10.1080/09669760.2012.714992

Voutsina, C. (2012). A micro-developmental approach to studying young children's problem solving behavior in addition. *The Journal of Mathematical Behavior, 31*(3), 366–381. http://dx.doi.org/10.1016/j.jmathb.2012.03.002

Yeung, D. Y., Fung, H. H., & Kam, C. (2012). Age differences in problem solving strategies: The mediating role of future time perspective. *Personality and Individual Differences, 53*(1), 38–43. http://dx.doi.org/10.1016/j.paid.2012.02.014

EDUCATION (39, +24)

Akram, M., & Khan, M. I. (2012). Assessment of academic stress and problem solving among senior secondary school students. *Social Science International, 28*(2), 265–274.

Angeli, C., & Valanides, N. (2012). Epistemological beliefs and ill-structured problem-solving in solo and paired contexts. *Journal of Educational Technology & Society, 15*(1), 2–14.

Argelagós, E., & Pifarré, M. (2012). Improving Information Problem Solving skills in Secondary Education through embedded instruction. *Computers in Human Behavior, 28*(2), 515–526. http://dx.doi.org/10.1016/j.chb.2011.10.024

Beretta, A. (2012). Pensiero critico e problem solving: l'apprendimento scolastico Ii educa? Una ricerca tra studenti gifted di scuola secondaria di secondo grado. *Psicologia dell'educazione, 6*(2), 163–175.

Booth, J. L., & Koedinger, K. R. (2012). Are diagrams always helpful tools? Developmental and individual differences in the effect of presentation format on student problem solving. *British Journal of Educational Psychology, 82*(3), 492–511. http://dx.doi.org/10.1111/j.2044-8279.2011.02041.x

Capraro, M. M., An, S. A., Ma, T., Rangel-Chavez, A. F., & Harbaugh, A. (2012). An investigation of preservice teachers' use of guess and check in solving a semi open-ended mathematics problem. *The Journal of Mathematical Behavior, 31*(1), 105–116. http://dx.doi.org/10.1016/j.jmathb.2011.10.002

Capraro, R. M., Capraro, M. M., & Rupley, W. H. (2012). Reading-enhanced word problem solving: A theoretical model. *European Journal of Psychology of Education, 27*(1), 91–114. http://dx.doi.org/10.1007/s10212-011-0068-3

Chang, K.-E., Wu, L.-J., Weng, S.-E., & Sung, Y.-T. (2012). Embedding game-based problem-solving phase into problem-posing system for mathematics learning. *Computers & Education, 58*(2), 775–786. http://dx.doi.org/10.1016/j.compedu.2011.10.002

Collins, A. (2012). What is the most effective way to teach problem solving? A commentary on productive failure as a method of teaching. *Instructional Science, 40*(4), 731–735. http://dx.doi.org/10.1007/s11251-012-9234-5

Damianova, M. K., Lucas, M., & Sullivan, G. B. (2012). Verbal mediation of problem solving in pre-primary and junior primary school children. *South African Journal of Psychology, 42*(3), 445–455.

DaSilveira, A. d. C., & Gemes, W. B. (2012). Perspectiva experiencial da conversa interna no contexto de resolução de problemas. *Paidéia, 22*(51), 43–52. http://dx.doi.org/10.1590/S0103-863X2012000100006

Eseryel, D., Guo, Y., & Law, V. (2012). Interactivity[3] design and assessment framework for educational games to promote motivation and complex problem-solving skills. In D. Ifenthaler, D. Eseryel & X. Ge (Eds.), *Assessment in game-based learning: Foundations, innovations, and perspectives* (pp. 257–285). New York: Springer Science.

Fang, N. (2012). Students' perceptions of dynamics concept pairs and correlation with their problem-solving performance. *Journal of Science Education and Technology*, *21*(5), 571–580. http://dx.doi.org/10.1007/s10956-011-9347-7

Ferreira, M. M., & Trudel, A. R. (2012). The impact of problem-based learning (PBL) on students attitudes towards science, problem-solving skills, and sense of community in the classroom. *Journal of Classroom Interaction, 47*(1), 23–30.

Fyfe, E. R., Rittle-Johnson, B., & DeCaro, M. S. (2012). The effects of feedback during exploratory mathematics problem solving: Prior knowledge matters. *Journal of Educational Psychology, 104*(4), 1094–1108. http://dx.doi.org/10.1037/a0028389

Hong, S.-Y., & Diamond, K. E. (2012). Two approaches to teaching young children science concepts, vocabulary, and scientific problem-solving skills. *Early Childhood Research Quarterly, 27*(2), 295–305. http://dx.doi.org/10.1016/j.ecresq.2011.09.006

Huang, L.-F., Wu, T.-Y., Hou, S.-H., & Horng, R.-Y. (2012). Effects of feedback type, problem presentation, and practice on problem solving. *Bulletin of Educational Psychology, 43*(4), 855–874.

Hwang, G.-J., Wu, P.-H., & Chen, C.-C. (2012). An online game approach for improving students' learning performance in web-based problem-solving activities. *Computers & Education, 59*(4), 1246–1256. http://dx.doi.org/10.1016/j.compedu.2012.05.009

Ifenthaler, D. (2012). Determining the effectiveness of prompts for self-regulated learning in problem-solving scenarios. *Journal of Educational Technology & Society, 15*(1), 38–52.

Kuo, F.-R., Hwang, G.-J., & Lee, C.-C. (2012). A hybrid approach to promoting students' web-based problem-solving competence and learning attitude. *Computers & Education, 58*(1), 351–364. http://dx.doi.org/10.1016/j.compedu.2011.09.020

Lubin, I. A., & Ge, X. (2012). Investigating the influences of a LEAPS model on preservice teachers' problem solving, metacognition, and motivation in an educational technology course. *Educational Technology Research and Development, 60*(2), 239–270. http://dx.doi.org/10.1007/s11423-011-9224-3

Magyar, C. I., & Pandolfi, V. (2012). Considerations for establishing a multi-tiered problem-solving model for students with autism spectrum disorders and comorbid emotional–behavioral disorders. *Psychology in the Schools, 49*(10), 975–987. http://dx.doi.org/10.1002/pits.21645

Martin, A. J., Liem, G. A. D., Mok, M. M. C., & Xu, J. (2012). Problem solving and immigrant student mathematics and science achievement: Multination findings from the Programme for International Student Assessment (PISA). *Journal of Educational Psychology, 104*(4), 1054–1073. http://dx.doi.org/10.1037/a0029152

Mulcahy, R. S. (2012). The effects of experience grouping on achievement, satisfaction, and problem-solving discourse in professional technical training. *Educational Technology Research and Development, 60*(1), 15–29. http://dx.doi.org/10.1007/s11423-011-9203-8

Murata, A., & Kattubadi, S. (2012). Grade 3 students' mathematization through modeling: Situation models and solution models with mutli-digit subtraction problem solving. *The Journal of Mathematical Behavior, 31*(1), 15–28. http://dx.doi.org/10.1016/j.jmathb.2011.07.004

Newton, J. S., Horner, R. H., Algozzine, B., Todd, A. W., & Algozzine, K. (2012). A randomized wait-list controlled analysis of the implementation integrity of team-initiated problem solving processes. *Journal of School Psychology, 50*(4), 421–441. http://dx.doi.org/10.1016/j.jsp.2012.04.002

Ngu, B. H., & Yeung, A. S. (2012). Fostering analogical transfer: The multiple components approach to algebra word problem solving in a chemistry context. *Contemporary Educational Psychology, 37*(1), 14–32. http://dx.doi.org/10.1016/j.cedpsych.2011.09.001

Panaoura, A. (2012). Improving problem solving ability in mathematics by using a mathematical model: A computerized approach. *Computers in Human Behavior, 28*(6), 2291–2297. http://dx.doi.org/10.1016/j.chb.2012.06.036

Pimmer, C., Pachler, N., Nierle, J., & Genewein, U. (2012). Learning through inter- and intradisciplinary problem solving: Using cognitive apprenticeship to analyse doctor-to-doctor consultation. *Advances in Health Sciences Education, 17*(5), 759–778. http://dx.doi.org/10.1007/s10459-012-9350-7

Raes, A., Schellens, T., De Wever, B., & Vanderhoven, E. (2012). Scaffolding information problem solving in web-based collaborative inquiry learning. *Computers & Education, 59*(1), 82–94. http://dx.doi.org/10.1016/j.compedu.2011.11.010

Rosales, J., Vicente, S., Chamoso, J. M., Muñez, D., & Orrantia, J. (2012). Teacher–student interaction in joint word problem solving. The role of situational and mathematical knowledge in mainstream classrooms. *Teaching and Teacher Education, 28*(8), 1185–1195. http://dx.doi.org/10.1016/j.tate.2012.07.007

She, H.-C., Cheng, M.-T., Li, T.-W., Wang, C.-Y., Chiu, H.-T., Lee, P.-Z., . . . & Chuang, M.-H. (2012). Web-based undergraduate chemistry problem-solving: The interplay of task performance, domain knowledge and web-searching strategies. *Computers & Education, 59*(2), 750–761. http://dx.doi.org/10.1016/j.compedu.2012.02.005

Siegel, M. A. (2012). Filling in the distance between us: Group metacognition during problem solving in a secondary education course. *Journal of Science Education and Technology, 21*(3), 325–341. http://dx.doi.org/10.1007/s10956-011-9326-z

Stamovlasis, D., & Tsaparlis, G. (2012). Applying catastrophe theory to an information-processing model of problem solving in science education. *Science Education, 96*(3), 392–410. http://dx.doi.org/10.1002/sce.21002

Sullivan, F. R., & Lin, X. (2012). The ideal science student: Exploring the relationship of students' perceptions to their problem solving activity in a robotics context. *Journal of Interactive Learning Research, 23*(3), 273–308.

Temur, Ö. D. (2012). Analysis of prospective classroom teachers' teaching of mathematical modeling and problem solving. *Eurasia Journal of Mathematics, Science & Technology Education, 8*(2), 83–93.

Tolar, T. D., Fuchs, L., Cirino, P. T., Fuchs, D., Hamlett, C. L., & Fletcher, J. M. (2012). Predicting development of mathematical word problem solving across the intermediate grades. *Journal of Educational Psychology, 104*(4), 1083–1093. http://dx.doi.org/10.1037/a0029020

van de Sande, C., & Greeno, J. G. (2012). Achieving alignment of perspectival framings in problem-solving discourse. *Journal of the Learning Sciences, 21*(1), 1–44. http://dx.doi.org/10.1080/10508406.2011.639000

Zhang, D., & Xin, Y. P. (2012). A follow-up meta-analysis for word-problem-solving interventions for students with mathematics difficulties. *The Journal of Educational Research, 105*(5), 303–318. http://dx.doi.org/10.1080/00220671.2011.627397

APPLIED (37, +18)

Aarikka-Stenroos, L., & Jaakkola, E. (2012). Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. *Industrial Marketing Management, 41*(1), 15–26. http://dx.doi.org/10.1016/j.indmarman.2011.11.008

Ajawani, J. C., Vohra, M., & Verma, S. (2012). Problem solving ability of cognitively high intelligent adolescents. *Journal of the Indian Academy of Applied Psychology, 38*(1), 126–133.

Angouri, J. (2012). Managing disagreement in problem solving meeting talk. *Journal of Pragmatics, 44*(12), 1565–1579. http://dx.doi.org/10.1016/j.pragma.2012.06.010

Bass, J., Poudyal, B., Tol, W., Murray, L., Nadison, M., & Bolton, P. (2012). A controlled trial of problem-solving counseling for war-affected adults in Aceh, Indonesia. *Social Psychiatry and Psychiatric Epidemiology, 47*(2), 279–291. http://dx.doi.org/10.1007/s00127-011-0339-y

Bergman, P. N., Ahlberg, G., Ahlberg, G., Stoetzer, U., Åborg, C., Hallsten, L., & Lundberg, I. (2012). Do job demands and job control affect problem-solving? *Work: Journal of Prevention, Assessment & Rehabilitation, 42*(2), 195–203.

Budak, D., & Chavajay, P. (2012). Cultural variation in the social organization of problem solving among African American and European American siblings. *Cultural Diversity and Ethnic Minority Psychology, 18*(3), 307–311. http://dx.doi.org/10.1037/a0028425

Bulu, S. T., & Pedersen, S. (2012). Supporting problem-solving performance in a hypermedia learning environment: The role of students' prior knowledge and metacognitive skills. *Computers in Human Behavior, 28*(4), 1162–1169. http://dx.doi.org/10.1016/j.chb.2012.01.026

Cacciatori, E. (2012). Resolving conflict in problem-solving: Systems of artefacts in the development of new routines. *Journal of Management Studies, 49*(8), 1559–1585. http://dx.doi.org/10.1111/j.1467-6486.2012.01065.x

Chen, Y., & Steckel, J. H. (2012). Modeling credit card share of wallet: Solving the incomplete information problem. *Journal of Marketing Research, 49*(5), 655–669. http://dx.doi.org/10.1509/jmr.06.0005

Conaldi, G., Lomi, A., & Tonellato, M. (2012). Dynamic models of affiliation and the network structure of problem solving in an open source software project. *Organizational Research Methods, 15*(3), 385–412. http://dx.doi.org/10.1177/1094428111430541

Cropley, D. H. (2012). Special issue—Applied creativity and problem-solving in Australia. *The International Journal of Creativity & Problem Solving, 22*(1), 5–7.

d'Estrée, T. P. (2012). Addressing intractable conflict through interactive problem-solving. In L. R. Tropp (Ed.), *The Oxford handbook of intergroup conflict* (pp. 229–251). New York: Oxford University Press.

Dees, J. G. (2012). A tale of two cultures: Charity, problem solving, and the future of social entrepreneurship. *Journal of Business Ethics, 111*(3), 321–334. http://dx.doi.org/10.1007/s10551-012-1412-5

Espada, J. P., Griffin, K. W., Pereira, J. R., Orgilés, M., & García-Fernández, J. M. (2012). Component analysis of a school-based substance use prevention program in Spain: Contributions of problem solving and social skills training content. *Prevention Science, 13*(1), 86–95. http://dx.doi.org/10.1007/s11121-011-0249-y

Frigotto, M. L., & Rossi, A. (2012). Diversity and communication in teams: Improving problem-solving or creating confusion? *Group Decision and Negotiation, 21*(6), 791–820. http://dx.doi.org/10.1007/s10726-011-9250-x

Goldstein, N. (2012). Review of 'Boundary spanning leadership—Six practices for solving problems, driving innovation, and transforming organizations.' *Academy of Management Learning & Education, 11*(2), 312–314. http://dx.doi.org/10.5465/amle.2012.0072

Hong, J.-C., Hwang, M.-Y., Chen, Y.-J., Chen, M.-Y., & Liu, L.-C. (2012). Using eight trigrams (BaGua) approach with epistemological practice to vitalize problem-solving processes: A confirmatory analysis of R&D managers. *Thinking Skills and Creativity, 7*(3), 187–197. http://dx.doi.org/10.1016/j.tsc.2012.03.001

Hong, J.-C., Hwang, M.-Y., & Tai, K.-H. (2012). Applying the bagua to revitalize the creative problem solving process during a goal oriented contest. *Thinking Skills and Creativity*, *9*, 120–128. http://dx.doi.org/10.1016/j.tsc.2012.09.003

Juip, M., & Fitzner, K. (2012). A problem-solving approach to effective insulin injection for patients at either end of the body mass index. *Population Health Management, 15*(3), 168–173. http://dx.doi.org/10.1089/pop.2011.0039

Kaedi, M., & Ghasem-Aghaee, N. (2012). Improving case-based reasoning in solving optimization problems using Bayesian optimization algorithm. *Intelligent Data Analysis, 16*(2), 199–210.

Kiffin-Petersen, S., Murphy, S. A., & Soutar, G. (2012). The problem-solving service worker: Appraisal mechanisms and positive affective experiences during customer interactions. *Human Relations, 65*(9), 1179–1206. http://dx.doi.org/10.1177/0018726712451762

Kim, J.-N., Ni, L., Kim, S.-H., & Kim, J. R. (2012). What makes people hot? Applying the situational theory of problem solving to hot-issue publics. *Journal of Public Relations Research, 24*(2), 144–164. http://dx.doi.org/10.1080/1062726X.2012.626133

Larson, J., & Busse, R. T. (2012). A problem-solving approach to school violence prevention. In S. R. Jimerson, A. B. Nickerson, M. J. Mayer & M. J. Furlong (Eds.), *Handbook of school violence and school safety: International research and practice* (2nd ed., pp. 45–56). New York: Routledge.

Lee, H. M. C. (2012). Fatherhood in the child support system: An innovative problem-solving approach to an old problem. *Family Court Review, 50*(1), 59–70. http://dx.doi.org/10.1111/j.1744-1617.2011.01428.x

Lui, M. H. L., Lee, D. T. F., Greenwood, N., & Ross, F. M. (2012). Informal stroke caregivers' self-appraised problem-solving abilities as a predictor of well-being and perceived social support. *Journal of Clinical Nursing, 21*(1–2), 232–242. http://dx.doi.org/10.1111/j.1365-2702.2011.03742.x

McMillan, H. S., & Morris, M. L. (2012). Examining the relationship between work/life conflict and life satisfaction in executives: The importance of problem-solving coping interventions and HRD. *Advances in Developing Human Resources, 14*(4), 640–663. http://dx.doi.org/10.1177/1523422312455626

Minto-Coy, I. D. (2012). The grit that makes the pearl: Collaborative problem solving in the midst of national crisis. *Systems Research and Behavioral Science, 29*(2), 221–226. http://dx.doi.org/10.1002/sres.2108

Nguyen, C. M., Liu, W. M., Hernandez, J. O., & Stinson, R. (2012). Problem-solving appraisal, gender role conflict, help-seeking behavior, and psychological distress among men who are homeless. *Psychology of Men & Masculinity, 13*(3), 270–282. http://dx.doi.org/10.1037/a0025523

Nickerson, J., Yen, C. J., & Mahoney, J. T. (2012). Exploring the problem-finding and problem-solving approach for designing organizations. *The Academy of Management Perspectives, 26*(1), 52–72. http://dx.doi.org/10.5465/amp.2011.0106

Rubin, M., Watt, S. E., & Ramelli, M. (2012). Immigrants' social integration as a function of approach–avoidance orientation and problem-solving style. *International Journal of Intercultural Relations, 36*(4), 498–505. http://dx.doi.org/10.1016/j.ijintrel.2011.12.009

Sachse, P., & Hacker, W. (2012). External procedures in design problem solving by experienced engineering designers—Methods and purposes. *Theoretical Issues in Ergonomics Science, 13*(5), 603–614. http://dx.doi.org/10.1080/1464536X.2011.555788

Szwarcberg, M. (2012). Revisiting clientelism: A network analysis of problem-solving networks in Argentina. *Social Networks, 34*(2), 230–240. http://dx.doi.org/10.1016/j.socnet.2011.12.003

Treffinger, D. J., Selby, E. C., & Crumel, J. H. (2012). Evaluation of the Future Problem Solving Program International (FPSPI). *The International Journal of Creativity & Problem Solving, 22*(2), 45–61.

Treffinger, D. J., Solomon, M., & Woythal, D. (2012). Four decades of creative vision: Insights from an evaluation of the Future Problem Solving Program International (FPSPI). *The Journal of Creative Behavior, 46*(3), 209–219. http://dx.doi.org/10.1002/jocb.14

van Buuren, A., Boons, F., & Teisman, G. (2012). Collaborative problem solving in a complex governance system: Amsterdam Airport Schiphol and the challenge to break path dependency. *Systems Research and Behavioral Science, 29*(2), 116–130. http://dx.doi.org/10.1002/sres.2101

Yang, E., Foster-Fishman, P., Collins, C., & Ahn, S. (2012). Testing a comprehensive community problem-solving framework for community coalitions. *Journal of Community Psychology, 40*(6), 681–698. http://dx.doi.org/10.1002/jcop.20526

Zhou, Q., Hirst, G., & Shipton, H. (2012). Promoting creativity at work: The role of problem-solving demand. *Applied Psychology: An International Review, 61*(1), 56–80. http://dx.doi.org/10.1111/j.1464-0597.2011.00455.x

NEUROSCIENCE (8, +3)

Anderson, J. R. (2012). Tracking problem solving by multivariate pattern analysis and Hidden Markov Model algorithms. *Neuropsychologia, 50*(4), 487–498. http://dx.doi.org/10.1016/j.neuropsychologia.2011.07.025

Anderson, J. R., Fincham, J. M., Schneider, D. W., & Yang, J. (2012). Using brain imaging to track problem solving in a complex state space. *NeuroImage, 60*(1), 633–643. http://dx.doi.org/10.1016/j.neuroimage.2011.12.025

Jin, G., Li, K., Qin, Y., Zhong, N., Zhou, H., Wang, Z., . . . Zeng, Q. (2012). fMRI study in posterior cingulate and adjacent precuneus cortex in healthy elderly adults using problem solving task. *Journal of the Neurological Sciences, 318*(1–2), 135–139. http://dx.doi.org/10.1016/j.jns.2012.02.032

Nitschke, K., Ruh, N., Kappler, S., Stahl, C., & Kaller, C. P. (2012). Dissociable stages of problem solving (I): Temporal characteristics revealed by eye-movement analyses. *Brain and Cognition, 80*(1), 160–169. http://dx.doi.org/10.1016/j.bandc.2012.05.003

Noack, R. A. (2012). Solving the "human problem": The frontal feedback model. *Consciousness and Cognition: An International Journal, 21*(2), 1043–1067. http://dx.doi.org/10.1016/j.concog.2012.01.011

Olulade, O. A., Gilger, J. W., Talavage, T. M., Hynd, G. W., & McAteer, C. I. (2012). Beyond phonological processing deficits in adult dyslexics: Atypical fMRI activation patterns for spatial problem solving. *Developmental Neuropsychology, 37*(7), 617–635. http://dx.doi.org/10.1080/87565641.2012.702826

Ruh, N., Rahm, B., Unterrainer, J. M., Weiller, C., & Kaller, C. P. (2012). Dissociable stages of problem solving (II): First evidence for process-contingent temporal order of activation in dorsolateral prefrontal cortex. *Brain and Cognition, 80*(1), 170–176. http://dx.doi.org/10.1016/j.bandc.2012.02.012

Zhu, H.-X., Yang, C.-J., Li, W.-F., Liu, X., Qiu, J., & Zhang, Q.-L. (2012). An fMRI study for prototype position effect of insight in scientific inventional problem-solving. *Acta Psychologica Sinica, 44*(8), 1025–1037.

ANIMAL (4, +2)

Garber, P. A., Gomes, D. F., & Bicca-Marques, J. C. (2012). Experimental field study of problem-solving using tools in free-ranging capuchins (Sapajus nigritus, formerly Cebus nigritus). *American Journal of Primatology, 74*(4), 344–358.

Giurfa, M. (2012). Visual learning in social insects: From simple associations to higher-order problem solving. In F. G. Barth, P. Giampieri-Deutsch & H.-D. Klein (Eds.), *Sensory perception: Mind and matter* (pp. 109–133). Vienna, Austria: Springer Science.

Thornton, A., & Samson, J. (2012). Innovative problem solving in wild meerkats. *Animal Behaviour, 83*(6), 1459–1468. http://dx.doi.org/10.1016/j.anbehav.2012.03.018

Völter, C. J., & Call, J. (2012). Problem solving in great apes (Pan paniscus, Pan troglodytes, Gorilla gorilla, and Pongo abelii): The effect of visual feedback. *Animal Cognition, 15*(5), 923–936. http://dx.doi.org/10.1007/s10071-012-0519-5

ARTIFICIAL INTELLIGENCE (7, -1)

Barbucha, D. (2012). Search modes for the cooperative multi-agent system solving the vehicle routing problem. *Neurocomputing: An International Journal, 88*, 13–23. http://dx.doi.org/10.1016/j.neucom.2011.07.032

Kunda, M., McGreggor, K., & Goel, A. K. (2012). A computational model for solving problems from the Raven's Progressive Matrices intelligence test using iconic visual representations. *Cognitive Systems Research*, *22–23*, 47–66. http://dx.doi.org/10.1016/j.cogsys.2012.08.001

Pendharkar, P. C., & Rodger, J. A. (2012). A distributed problem-solving framework for probabilistic software effort estimation. *Expert Systems: International Journal of Knowledge Engineering and Neural Networks, 29*(5), 492–505. http://dx.doi.org/10.1111/j.1468-0394.2011.00607.x

Pop, P. C., Matei, O., & Sitar, C. P. (2012). An improved hybrid algorithm for solving the generalized vehicle routing problem. *Neurocomputing: An International Journal, 109*, 76–83. http://dx.doi.org/10.1016/j.neucom.2012.03.032

Shen, V. R. L., Yang, C.-Y., & Lee, J.-H. (2012). Analysis of the problem description in the algorithm for inventive prob-

lem solving using Petri nets. *Knowledge-Based Systems, 35*, 290–303. http://dx.doi.org/10.1016/j.knosys.2012.04.008

Sun, Y., Zhang, L., & Gu, X. (2012). A hybrid co-evolutionary cultural algorithm based on particle swarm optimization for solving global optimization problems. *Neurocomputing: An International Journal, 98*, 76–89. http://dx.doi.org/10.1016/j.neucom.2011.08.043

Tabassian, M., Ghaderi, R., & Ebrahimpour, R. (2012). Combining complementary information sources in the Dempster–Shafer framework for solving classification problems with imperfect labels. *Knowledge-Based Systems, 27*, 92–102. http://dx.doi.org/10.1016/j.knosys.2011.10.010

COMPLEX PROBLEM SOLVING (18, NEW)

Abele, S., Greiff, S., Geschwendtner, T., Wüstenberg, S., Nickolaus, R., Nitzschke, A., & Funke, J. (2012). Dynamische Problemlösekompetenz. Ein bedeutsamer Prädiktor von Problemlöseleistungen in technischen Anforderungskontexten? [The importance of general cognitive determinants in mastering job demands. Some research on the example of dynamic and technical problem solving]. *Zeitschrift für Erziehungswissenschaft, 15*(2), 363–391. http://dx.doi.org/10.1007/s11618-012-0277-9

Dandurand, F., Shultz, T. R., & Rey, A. (2012). Including cognitive biases and distance-based rewards in a connectionist model of complex problem solving. *Neural Networks, 25*, 41–56. http://dx.doi.org/10.1016/j.neunet.2011.06.021

Eseryel, D., Guo, Y., & Law, V. (2012). Interactivity[3] design and assessment framework for educational games to promote motivation and complex problem-solving skills. In D. Ifenthaler, D. Eseryel & X. Ge (Eds.), *Assessment in game-based learning: Foundations, innovations, and perspectives* (pp. 257–285). New York: Springer Science.

Fischer, A., Greiff, S., & Funke, J. (2012). The process of solving complex problems. *Journal of Problem Solving, 4*(1), 19–42. http://dx.doi.org/10.7771/1932-6246.1118

Funke, J. (2012). Complex problem solving. In N. M. Seel (Ed.), *Encyclopedia of the sciences of learning* (pp. 682–685). Heidelberg: Springer.

Greiff, S. (2012). Assessment and theory in Complex Problem Solving. A continuing contradiction? *Journal of Educational and Developmental Psychology, 2*, 49–56.

Greiff, S., Wüstenberg, S., & Funke, J. (2012). Dynamic Problem Solving: A new measurement perspective. *Applied Psychological Measurement, 36*(3), 189–213. http://dx.doi.org/10.1177/0146621612439620

Kim, M. K. (2012). Theoretically grounded guidelines for assessing learning progress: Cognitive changes in ill-structured complex problem-solving contexts. *Educational Technology Research and Development, 60*(4), 601–622. http://dx.doi.org/10.1007/s11423-012-9247-4

Kim, M. K. (2012). Cross-validation study of methods and technologies to assess mental models in a complex problem solving situation. *Computers in Human Behavior, 28*(2), 703–717. http://dx.doi.org/10.1016/j.chb.2011.11.018

Lee, J., & Spector, J. M. (2012). Effects of model-centered instruction on effectiveness, efficiency, and engagement with ill-structured problem solving. *Instructional Science, 40*(3), 537–557. http://dx.doi.org/10.1007/s11251-011-9189-y

Leutner, D., Fleischer, J., Wirth, J., Greiff, S., & Funke, J. (2012). Analytische und dynamische Problemlösekompetenz im Lichte internationaler Schulleistungsvergleichsstudien: Untersuchungen zur Dimensionalität [Analytic and dynamic problem solving competence in international student assessments: Studies in dimensionality]. *Psychologische Rundschau, 63*(1), 34–42. http://dx.doi.org/10.1026/0033-3042/a000108

Malin, J., & Makel, M. C. (2012). Gender differences in gifted students' advice on solving the world's problems. *Journal for the Education of the Gifted, 35*(2), 175–187. http://dx.doi.org/10.1177/0162353212440617

Monjelat, N., Méndez-Zaballos, L., & Lacasa, P. (2012). Problem solving processes and video games: The Sim City Creator case. *Electronic Journal of Research in Educational Psychology, 10*(3), 1493–1521.

Scherer, R., & Tiemann, R. (2012). Factors of problem-solving competency in a virtual chemistry environment: The role of metacognitive knowledge about strategies. *Computers & Education, 59*(4), 1199–1214. http://dx.doi.org/10.1016/j.compedu.2012.05.020

Sonnleitner, P., Brunner, M., Greiff, S., Funke, J., Keller, U., Hazotte, C., & Latour, T. (2012). The GeneticsLab: Acceptance and psychometric characteristics of a computer-based microworld assessing complex problem solving. *Psychological Test and Assessment Modeling, 54*(1), 54–72.

Wüstenberg, S., Greiff, S., & Funke, J. (2012). Complex problem solving—More than reasoning? *Intelligence, 40*(1), 1–14. http://dx.doi.org/10.1016/j.intell.2011.11.003

Yang, Y.-T. C. (2012). Building virtual cities, inspiring intelligent citizens: Digital games for developing students' problem solving and learning motivation. *Computers & Education, 59*(2), 365–377. http://dx.doi.org/10.1016/j.compedu.2012.01.012

Zheng, R., & Cook, A. (2012). Solving complex problems: A convergent approach to cognitive load measurement. *British Journal of Educational Technology, 43*(2), 233–246. http://dx.doi.org/10.1111/j.1467-8535.2010.01169.x

INSIGHT PROBLEM SOLVING (11, NEW)

Cushen, P. J., & Wiley, J. (2012). Cues to solution, restructuring patterns, and reports of insight in creative problem solving. *Consciousness and Cognition: An International*

Journal, 21(3), 1166–1175. http://dx.doi.org/10.1016/j.concog.2012.03.013

Macchi, L., & Bagassi, M. (2012). Intuitive and analytical processes in insight problem solving: A psycho-rhetorical approach to the study of reasoning. *Mind & Society, 11*(1), 53–67. http://dx.doi.org/10.1007/s11299-012-0103-3

Metuki, N., Sela, T., & Lavidor, M. (2012). Enhancing cognitive control components of insight problems solving by anodal tDCS of the left dorsolateral prefrontal cortex. *Brain Stimulation, 5*(2), 110–115. http://dx.doi.org/10.1016/j.brs.2012.03.002

Mumford, M. D., Hester, K. S., Robledo, I. C., Peterson, D. R., Day, E. A., Hougen, D. F., & Barrett, J. D. (2012). Mental models and creative problem-solving: The relationship of objective and subjective model attributes. *Creativity Research Journal, 24*(4), 311–330. http://dx.doi.org/10.1080/10400419.2012.730008

Öllinger, M., Jones, G., Faber, A. H., & Knoblich, G. (2012). Cognitive mechanisms of insight: The role of heuristics and representational change in solving the eight-coin problem. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 39*(3), 931–939. http://dx.doi.org/10.1037/a0029194

Ostafin, B. D., & Kassman, K. T. (2012). Stepping out of history: Mindfulness improves insight problem solving. *Consciousness and Cognition: An International Journal, 21*(2), 1031–1036. http://dx.doi.org/10.1016/j.concog.2012.02.014

Penaloza, A. A., & Calvillo, D. P. (2012). Incubation provides relief from artificial fixation in problem solving. *Creativity Research Journal, 24*(4), 338–344. http://dx.doi.org/10.1080/10400419.2012.730329

Robledo, I. C., Hester, K. S., Peterson, D. R., Barrett, J. D., Day, E. A., Hougen, D. P., & Mumford, M. D. (2012). Errors and understanding: The effects of error-management training on creative problem-solving. *Creativity Research Journal, 24*(2–3), 220–234. http://dx.doi.org/10.1080/10400419.2012.677352

Shen, W.-B., Liu, C., Luo, J., & Yu, J. (2012). Brain perceived intuitively mental impasses in insight problem solving: An ERP study. *Acta Psychologica Sinica, 44*(7), 924–935.

Simonton, D. K. (2012). Creativity, problem solving, and solution set sightedness: Radically reformulating BVSR. *The Journal of Creative Behavior, 46*(1), 48–65. http://dx.doi.org/10.1002/jocb.004

Xing, Q., Zhang, J. X., & Zhang, Z. (2012). Event-related potential effects associated with insight problem solving in a Chinese logogriph task. *Psychology, 3*(1), 65–69. http://dx.doi.org/10.4236/psych.2012.31011

CLINICAL (34, NEW)

Ailey, S. H., Friese, T. R., & Nezu, A. M. (2012). Modifying a social problem-solving program with the input of individuals with intellectual disabilities and their staff. *Research in Nursing & Health, 35*(6), 610–623.

Beische, D., Hautzinger, M., Becker, C., & Pfeiffer, K. (2012). Der Problemlöse-Ansatz in der Beratung pflegender Angehöriger von Schlaganfall-Betroffenen—Eine inhaltliche Analyse bearbeiteter Themen [A problem-solving approach for advising relatives of stroke-patients]. *Psychotherapie Psychosomatik Medizinische Psychologie, 62*(9–10), 375–382. http://dx.doi.org/10.1055/s-0032-1321881

Berry, J. W., Elliott, T. R., Grant, J. S., Edwards, G., & Fine, P. R. (2012). Does problem-solving training for family caregivers benefit their care recipients with severe disabilities? A latent growth model of the Project CLUES randomized clinical trial. *Rehabilitation Psychology, 57*(2), 98–112. http://dx.doi.org/10.1037/a0028229

Cho, S., & Chung, I. (2012). Development of strategies for solving mathematical word problems: Students with hearing impairments. *Japanese Journal of Special Education, 49*(6), 769–779.

Choi, N. G., Hegel, M. T., Marinucci, M. L., Sirrianni, L., & Bruce, M. L. (2012). Association between participant-identified problems and depression severity in problem-solving therapy for low-income homebound older adults. *International Journal of Geriatric Psychiatry, 27*(5), 491–499. http://dx.doi.org/10.1002/gps.2741

Chu, J. P., Huynh, L., & Areán, P. (2012). Cultural adaptation of evidence-based practice utilizing an iterative stakeholder process and theoretical framework: Problem solving therapy for Chinese older adults. *International Journal of Geriatric Psychiatry, 27*(1), 97–106. http://dx.doi.org/10.1002/gps.2698

DeGarmo, D. S., & Forgatch, M. S. (2012). A confidant support and problem solving model of divorced fathers' parenting. *American Journal of Community Psychology, 49*(1–2), 258–269. http://dx.doi.org/10.1007/s10464-011-9437-y

Demirbas, H., Ilhan, I. O., & Dogan, Y. B. (2012). Ways of problem solving as predictors of relapse in alcohol dependent male inpatients. *Addictive Behaviors, 37*(1), 131–134. http://dx.doi.org/10.1016/j.addbeh.2011.08.007

Feinberg, E., Stein, R., Diaz-Linhart, Y., Egbert, L., Beardslee, W., Hegel, M. T., & Silverstein, M. (2012). Adaptation of problem-solving treatment for prevention of depression among low-income, culturally diverse mothers. *Family & Community Health: The Journal of Health Promotion & Maintenance, 35*(1), 57–67.

Flink, I. K., Boersma, K., MacDonald, S., & Linton, S. J. (2012). Understanding catastrophizing from a misdirected problem-solving perspective. *British Journal of Health Psychology, 17*(2), 408–419. http://dx.doi.org/10.1111/j.2044-8287.2011.02044.x

Galor, S., & Hentschel, U. (2012). Problem-solving tendencies, coping styles, and self-efficacy among Israeli veterans

diagnosed with PTSD and depression. *Journal of Loss and Trauma, 17*(6), 522–535. http://dx.doi.org/10.1080/15325024.2012.674440

Ghahramanlou-Holloway, M., Bhar, S. S., Brown, G. K., Olsen, C., & Beck, A. T. (2012). Changes in problem-solving appraisal after cognitive therapy for the prevention of suicide. *Psychological Medicine, 42*(6), 1185–1193. http://dx.doi.org/10.1017/S0033291711002169

Gyöngyi, A., Mérk, B., Simon, S., & Dóra, P. F. (2012). Egy hatékony beavatkozás szuicid prevencióban: A problémamegoldó tréning alkalmazása a klinikumban. *Psychiatria Hungarica, 27*(2), 92–102.

Hirsch, J. K., Chang, E. C., & Jeglic, E. L. (2012). Social problem solving and suicidal behavior: Ethnic differences in the moderating effects of loneliness and life stress. *Archives of Suicide Research, 16*(4), 303–315. http://dx.doi.org/10.1080/13811118.2013.722054

Hoek, W., Schuurmans, J., Koot, H. M., & Cuijpers, P. (2012). Effects of internet-based guided self-help problem-solving therapy for adolescents with depression and anxiety: A randomized controlled trial. *PLoS ONE, 7*(8). http://dx.doi.org/10.1371/journal.pone.0043485

Hunt, C. W., Wilder, B., Steele, M. M., Grant, J. S., Pryor, E. R., & Moneyham, L. (2012). Relationships among self-efficacy, social support, social problem solving, and self-management in a rural sample living with Type 2 diabetes mellitus. *Research and Theory for Nursing Practice: An International Journal, 26*(2), 126–141. http://dx.doi.org/10.1891/1541-6577.26.2.126

Juip, M., & Fitzner, K. (2012). A problem-solving approach to effective insulin injection for patients at either end of the Body Mass Index. *Population Health Management, 15*(3), 168–173. http://dx.doi.org/10.1089/pop.2011.0039

Kasckow, J., Brown, C., Morse, J., Begley, A., Bensasi, S., & Reynolds, C. F., III. (2012). Post-traumatic stress disorder symptoms in emotionally distressed individuals referred for a depression prevention intervention: Relationship to problem-solving skills. *International Journal of Geriatric Psychiatry, 27*(11), 1106–1111. http://dx.doi.org/10.1002/gps.2826

Kropp, P., Brecht, I.-B., Niederberger, U., Kowalski, J., Schröder, D., Thome, J., . . . & Gerber, W.-D. (2012). Time-dependent post-imperative negative variation indicates adaptation and problem solving in migraine patients. *Journal of Neural Transmission, 119*(10), 1213–1221. http://dx.doi.org/10.1007/s00702-012-0843-6

Lancaster, K., Hughes, C. E., Chalmers, J., & Ritter, A. (2012). More than problem-solving: Critical reflections on the 'problematisation' of alcohol-related violence in Kings Cross. *Drug and Alcohol Review, 31*(7), 925–927. http://dx.doi.org/10.1111/j.1465-3362.2012.00516.x

Linda, W. P., Marroquín, B., & Miranda, R. (2012). Active and passive problem solving as moderators of the relation between negative life event stress and suicidal ideation among suicide attempters and non-attempters. *Archives of Suicide Research, 16*(3), 183–197. http://dx.doi.org/10.1080/13811118.2012.695233

Lyons, K. D., Erickson, K. S., & Hegel, M. T. (2012). Problem-solving strategies of women undergoing chemotherapy for breast cancer. *Canadian Journal of Occupational Therapy, 79*(1), 33–40. http://dx.doi.org/10.2182/cjot.2012.79.1.5

McClure, K. S., Nezu, A. M., Nezu, C. M., O'Hea, E. L., & McMahon, C. (2012). Social problem solving and depression in couples coping with cancer. *Psycho-Oncology, 21*(1), 11–19. http://dx.doi.org/10.1002/pon.1856

McMurran, M., & Coupe, S. (2012). Problem solving for personality disorder. The *Psychologist, 25*(4), 276–278.

Oliver, D. P., Washington, K., Demiris, G., Wittenberg-Lyles, E., & Novak, H. (2012). Problem solving interventions: An opportunity for hospice social workers to better meet caregiver needs. *Journal of Social Work in End-of-Life & Palliative Care, 8*(1), 3–9. http://dx.doi.org/10.1080/15524256.2012.650669

Ramaekers, S., Van Keulen, H., Van Beukelen, P., Kremer, W., & Pilot, A. (2012). Effectiveness of a programme design for the development of competence in solving clinical problems. *Medical Teacher, 34*(5), e309–e316. http://dx.doi.org/10.3109/0142159X.2012.668236

Sternheim, L., Startup, H., Pretorius, N., Johnson-Sabine, E., Schmidt, U., & Channon, S. (2012). An experimental exploration of social problem solving and its associated processes in anorexia nervosa. *Psychiatry Research, 200*(2–3), 524–529. http://dx.doi.org/10.1016/j.psychres.2012.06.029

Tsuchiya, M., Horn, S., & Ingham, R. (2012). Information provision and problem-solving processes in Japanese breast cancer survivors with lymphoedema symptoms. *Scandinavian Journal of Caring Sciences, 26*(1), 53–60. http://dx.doi.org/10.1111/j.1471-6712.2011.00903.x

Wade, S. L., Walz, N. C., Carey, J., McMullen, K. M., Cass, J., Mark, E., & Yeates, K. O. (2012). A randomized trial of teen online problem solving: Efficacy in improving caregiver outcomes after brain injury. *Health Psychology, 31*(6), 767–776. http://dx.doi.org/10.1037/a0028440

Wang, J., Zgibor, J., Matthews, J. T., Charron-Prochownik, D., Sereika, S. M., & Siminerio, L. (2012). Self-monitoring of blood glucose is associated with problem-solving skills in hyperglycemia and hypoglycemia. *The Diabetes Educator, 38*(2), 207–214. http://dx.doi.org/10.1177/0145721712440331

Washington, K. T., Demiris, G., Parker Oliver, D., Wittenberg-Lyles, E., & Crumb, E. (2012). Qualitative evaluation of a problem-solving intervention for informal hospice caregivers. *Palliative Medicine, 26*(8), 1018–1024. http://dx.doi.org/10.1177/0269216311427191

Williams, L. C. (2012). Using magic to throw light on tricky healthcare systems: Patient safety problem solving. *Human Factors and Ergonomics in Manufacturing & Service Industries, 22*(1), 87–95. http://dx.doi.org/10.1002/hfm.20281

Yanes, P. K., Morse, G., Hsiao, C.-B., Simms, L., & Roberts, J. E. (2012). Autobiographical memory specificity and the persistence of depressive symptoms in HIV-positive patients: Rumination and social problem-solving skills as mediators. *Cognition and Emotion, 26*(8), 1496–1507. http://dx.doi.org/10.1080/02699931.2012.665028

Yoon, K. L., & Joormann, J. (2012). Is timing everything? Sequential effects of rumination and distraction on interpersonal problem solving. *Cognitive Therapy and Research, 36*(3), 165–172. http://dx.doi.org/10.1007/s10608-010-9330-2

DISSERTATIONS (36, +25)

Adelman, C. B. (2012). *Examination of concurrent and longitudinal associations among emotional reactivity to stress, interpersonal problem-solving, and adolescent nonsuicidal self-injury*. Retrieved from ProQuest Dissertations and Theses. (UMI 3477521.)

Aiello, B. T. (2012). *A meeting of character: An examination of teaching Social Decision Making/Social Problem Solving (SDM/SPS) character education using classroom meetings*. Retrieved from ProQuest Dissertations and Theses. (UMI 3473575.)

Billionniere, E. V. (2012). *Assessing cognitive learning of analytical problem solving*. Retrieved from ProQuest Dissertations and Theses. (UMI 3481732.)

Brodeur, C. W. (2012). *Measuring team process: Using changing theory to improve problem solving outcomes*. Retrieved from ProQuest Dissertations and Theses. (UMI 3468150.)

Cardimona, K. M. (2012*). Identifying effective mathematical problem solving strategies for ELLs through social interaction*. Retrieved from ProQuest Dissertations and Theses. (UMI 3500942.)

Chen, M. (2012). *Solving practical dynamic pricing problems with limited demand informatio*n. Retrieved from ProQuest Dissertations and Theses. (UMI 3478835.)

Cox, S. (2012). *Reflection, brooding, and negative cognitive content: Untangling associations with depressive symptoms and problem solving*. Retrieved from ProQuest Dissertations and Theses. (UMI 3458358.)

Crerar, A. M. (2012). *Predicting career interests from problem-solving style with high school students*. Retrieved from ProQuest Dissertations and Theses. (UMI 3452786.)

Dada, A. R. (2012). *Solving student-patient assignment problem using a custom algorithm and tabu search in a dental clinic setting*. Retrieved from ProQuest Dissertations and Theses. (UMI 3498582.)

Dubbels, B. R. (2012). *The brain is for action: Embodiment, causality, and conceptual learning with video games to improve reading comprehension and scientific problem solving*. Retrieved from ProQuest Dissertations and Theses. (UMI 3490641.)

Fanetti, T. M. (2012). *The effect of problem-solving video games on the science reasoning skills of college students*. Retrieved from ProQuest Dissertations and Theses. (UMI 3487749.)

Fang, H. L. (2012). *The effects of simplified schema-based instruction on elementary students' mathematical word problem solving performance*. Retrieved from ProQuest Dissertations and Theses. (UMI 3491832.)

Geiken, R. (2012). *Cylinders and spheres: Toddlers engage in problem solving*. Retrieved from ProQuest Dissertations and Theses. (UMI 3464544.)

Glew, B. (2012). *Reducing the use of seclusion and restraint in segregated special education school settings through implementation of the Collaborative Problem Solving Model*. Retrieved from ProQuest Dissertations and Theses. (UMI 3491431.)

Herson, R. M. (2012). *Perspective taking, empathy and problem solving in service failure and recovery efforts: The impact on customer satisfaction, loyalty and negative word-of-mouth*. Retrieved from ProQuest Dissertations and Theses. (UMI 3494834.)

Hing-Hickman, M. E. (2012). *Epistemic strategies for solving two-dimensional physics problems*. Retrieved from ProQuest Dissertations and Theses. (UMI 3459271.)

Hobbs, R. M. (2012). *Improving problem-solving techniques for students in low-performing schools*. Retrieved from ProQuest Dissertations and Theses. (UMI 3493910.)

Honn, D. D. (2012). *An exploration of the effects of cognitive misfit on the relationship between problem-solving ability and accounting task performance*. Retrieved from ProQuest Dissertations and Theses. (UMI 3460310.)

Huber, C. W. (2012). *The impact of reciprocal teaching on mathematics problem solving for grade 4 students*. Retrieved from ProQuest Dissertations and Theses. (UMI 0823867.)

Hunt, C. W. (2012). *Relationships among self-efficacy, social support, social problem-solving, and self-management behaviors of people living with type 2 diabetes in rural Alabama*. Retrieved from ProQuest Dissertations and Theses. (UMI 3490194.)

Kachchaf, R. R. (2012). *Exploring problem solving strategies on multiple-choice science items: Comparing native Spanish-speaking English language learners and mainstream monolinguals*. Retrieved from ProQuest Dissertations and Theses. (UMI 3489530.)

Knutson, P. A. (2012). *A descriptive study of cooperative problem solving introductory physics labs*. Retrieved from ProQuest Dissertations and Theses. (UMI 3490659.)

Lo, W. (2012). *Task analysis—the inherent mathematical structures in students' problem-solving processes*. Retrieved from ProQuest Dissertations and Theses. (UMI 3464714.)

Maddrey, E. (2012). *The effect of problem-solving instruction on the programming self-efficacy and achievement of introductory computer science students*. Retrieved from ProQuest Dissertations and Theses. (UMI 3466275.)

Mancl, D. B. (2012). *Investigating the effects of a combined problem-solving strategy for students with learning difficulties in mathematics*. Retrieved from ProQuest Dissertations and Theses. (UMI 3460006.)

Meyers, E. M. (2012). *The nature and impact of information problem solving in the middle school classroom*. Retrieved from ProQuest Dissertations and Theses. (UMI 3472333.)

Moran, A. S. (2012). *The effects of comprehension intervention on mathematics problem solving for students with mathematics disability*. Retrieved from ProQuest Dissertations and Theses. (UMI 3482010.)

Parra, G. (2012). *Observations of parent monitoring and family problem solving in adolescence: Convergent and predictive validity for European American and African American youth*. Retrieved from ProQuest Dissertations and Theses. (UMI 3466378.)

Schroeder, L. B. (2012). *Investigating a metacognitive strategy for solving indefinite integration problems in calculus: An fMRI study*. Retrieved from ProQuest Dissertations and Theses. (UMI 3485447.)

Sheldon, S. A. M. (2012). *Beyond episodic memory: Medial temporal lobe contributions to problem-solving and semantic fluency tasks*. Retrieved from ProQuest Dissertations and Theses. (UMI NR77635.)

Thurmond, B. (2012). *Promoting students' problem solving skills and knowledge of STEM concepts in a data-rich learning environment: Using online data as a tool for teaching about renewable energy technologies*. Retrieved from ProQuest Dissertations and Theses. (UMI 3497314.)

Tjoe, H. H. (2012). *Which approaches do students prefer? Analyzing the mathematical problem solving behavior of mathematically gifted students*. Retrieved from ProQuest Dissertations and Theses. (UMI 3453797.)

Varvel, S. J. (2012). *Gender role conflict, problem-solving appraisal, and the psychological functioning of firefighters*. Retrieved from ProQuest Dissertations and Theses. (UMI 3458963.)

Walker, O. L. (2012). *Preschool predictors of social problem-solving and their relations to social and academic adjustment in early elementary school*. Retrieved from ProQuest Dissertations and Theses. (UMI 3468316.)

Yang, S.-J. (2012). *Strategy choice in physics problem solving—the power of knowledge and the influence of working memory*. Retrieved from ProQuest Dissertations and Theses. (UMI 3487650.)

Yates, J. L. (2012). *Complex problem solving in radiologic technology: Understanding the roles of experience, reflective judgment, and workplace culture*. Retrieved from ProQuest Dissertations and Theses. (UMI 3484379.)

BOOK CHAPTERS (9, NEW)

Bassok, M., & Novick, L. R. (2012). Problem solving. In K. J. Holyoak & R. G. Morrison (Eds.), *The Oxford handbook of thinking and reasoning*. (pp. 413–432). New York: Oxford University Press.

d'Estrée, T. P. (2012). Addressing intractable conflict through interactive problem-solving. In L. R. Tropp (Ed.), *The Oxford handbook of intergroup conflict* (pp. 229–251). New York: Oxford University Press.

Eseryel, D., Guo, Y., & Law, V. (2012). Interactivity³ design and assessment framework for educational games to promote motivation and complex problem-solving skills. In D. Ifenthaler, D. Eseryel & X. Ge (Eds.), *Assessment in game-based learning: Foundations, innovations, and perspectives* (pp. 257–285). New York: Springer Science.

Funke, J. (2012). Complex problem solving. In N. M. Seel (Ed.), *Encyclopedia of the sciences of learning* (pp. 682–685). Heidelberg: Springer.

Giurfa, M. (2012). Visual learning in social insects: From simple associations to higher-order problem solving. In F. G. Barth, P. Giampieri-Deutsch & H.-D. Klein (Eds.), *Sensory perception: Mind and matter* (pp. 109–133). Vienna, Austria: Springer Science.

Green, A. J. K., & Gilhooly, K. (2012). Problem solving. In N. Braisby & A. Gellatly (Eds.), *Cognitive psychology* (2nd ed., pp. 301–333). New York: Oxford University Press.

Larson, J., & Busse, R. T. (2012). A problem-solving approach to school violence prevention. In S. R. Jimerson, A. B. Nickerson, M. J. Mayer & M. J. Furlong (Eds.), *Handbook of school violence and school safety: International research and practice* (2nd ed., pp. 45–56). New York: Routledge.

Shapiro, D. L. (2012). Creative problem solving: Not just about the problem. In P. T. Coleman & M. Deutsch (Eds.), *Psychological components of sustainable peace* (pp. 85–104). New York: Springer Science.

Wiley, J., & Jarosz, A. F. (2012). How working memory capacity affects problem solving. In B. H. Ross (Ed.), *The psychology of learning and motivation* (Vol. 56, pp. 185–227). San Diego, CA: Elsevier Academic Press.

BOOKS (7, +7)

Barish, K. (2012). *Pride and joy: A guide to understanding your child's emotions and solving family problems*. New York: Oxford University Press.

González Sanders, D. J., & Fortinsky, R. H. (2012). *Dementia care with Black and Latino families: A social work problem-solving approach*. New York: Springer.

Greiff, S. (2012). *Individualdiagnostik komplexer Problemlösefähigkeit* [Individual diagnostics of problem solving competency]. Münster, Germany: Waxmann.

Hess, R. S., Short, R. J., & Hazel, C. E. (2012). *Comprehensive children's mental health services in schools and communities: A public health problem-solving model*. New York: Routledge.

Manassis, K. (2012). *Problem solving in child and adolescent psychotherapy: A skills-based collaborative approach*. New York: Guilford Press.

Shapiro, D. L. (2012). Creative problem solving: Not just about the problem! Psychological components of sustainable peace (pp. 85–104). New York, NY: Springer Science.

Starker, U. (2012). *Emotionale Adaptivität. Ein integratives Problemlösemodell* [Emotional adaptivity. An integrative process model]. Lengerich, Germany: Pabst Publishers.