

Human Problem Solving in 2008

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Abstract

This paper presents a bibliography of more than 200 references related to human problem solving, arranged by subject matter. The references were taken from PsycInfo database. Journal papers, book chapters, books and dissertations are included. The topics include human development, education, neuroscience, research in applied settings, as well as animal studies.

Introduction

Similarly to what I found two years ago, the ratio of the number of journal papers (165) to the number of journals where the papers appeared (104) is barely greater than one (there were also four book chapters). Both these numbers increased compared to 2006. This could result either from more inclusive selection this year, or from increased publication rate. The former seems more likely. Interestingly, the number of doctoral dissertations increased threefold: from 23 to 70. From among papers and chapters, 78 can be classified as basic research (General, Neuroscience, Animal) and 91 as applied (Developmental, Education, Applied). A different proportion is found for dissertations: 21 can be classified as basic research and 49 as applied.

The low ratio of the number of papers to the number journals is quite unusual. This ratio is definitely much higher for other areas of cognition such as visual or auditory perception, memory etc. The main factor has been the absence of a journal dedicated to problem solving. The *Journal of Problem Solving* has been around for a couple of years, but this is not long enough to change the situation. Another factor is the absence of the definition of our area. What is problem solving? What is not? Regardless of what the reason is, this situation seems undesirable. With a wide range of journals it is obvious that interpretation of some critical methodological concepts such as experiment, theory, model, or result will vary a lot. Similarly, the quality of research and review process will also vary substantially. In particular, no journal has a large pool of reviewers who are experts in any particular sub-area of problem solving and who are easily accessible. As a result,

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the authors are not likely to get the best possible review and criticism of their papers. This is already different with respect to combinatorial problems. Our journal has published a number of papers, and editors of other journals already know about our group. So, regardless of where a paper on the Traveling Salesman Problem is submitted, it is easy now to find the expert reviewers. Although *JPS* started with a focus on combinatorial problem solving, it had ambition to include all research on problem solving. This may be impossible to achieve considering the fuzziness of the definition of our field. But the next step could be to include a few other well-defined subareas of problem solving. Insight, causality, and mathematics education are good candidates. A somewhat different view was offered by one of the editors of *JPS* (Robert Goldstone). According to him, it is not bad for problem solving to have papers in so many different journals. In fact, reaching out to many communities could be a good thing for the field. The value of *JPS* would be to reach out to these different communities to connect researchers that might not otherwise read each others' work. It seems that regardless of the assessment of the current situation in problem solving research, *JPS* is likely to fill a niche and play an important role. Some of these issues have already been discussed at our recent workshop: http://spiderman.psych.purdue.edu/problem_solving/workshop08/, and more light will be shed on them by papers that we expect to receive for the special issue summarizing the workshop.

List of Journals

(The number of publications for each journal is shown in parentheses.)

Acta Psychologica

Acta Psychologica Sinica

Advances in child development and behavior

Aging, Neuropsychology, and Cognition (3)

American Journal on Mental Retardation

American Journal of Psychology (2)

American Psychologist

Animal Behaviour

Animal Behavior Processes

Animal Cognition (3)

Applied Intelligence (2)

Axiomathes: An International Journal in Ontology & Cognitive Systems

Behavioral and Brain Sciences

Behavioural Processes

Behavior Research Methods (2)

Brain and Cognition (4)

Brain Research

British Journal of Developmental Psychology

British Journal of Psychology

Canadian Journal of Experimental Psychology
Cerebral Cortex
Clinical Neuropsychologist (2)
Cognition
Cognition and Instruction
Cognitive Psychology (2)
Cognitive Science (4)
Communication Monographs
Computers & Education (7)
Computers in Human Behavior (8)
Contemporary Educational Psychology (2)
Creativity and Innovation Management
Developmental Psychology
Early Child Development and Care
Educational Psychology
Educational Psychology in Practice
Educational Research
European Journal of Cognitive Psychology
European Journal of Neuroscience
European Journal of Psychology of Education
European Journal of Social Psychology
Evolutionary Psychology
Experimental Brain Research (2)
Experimental Psychology
Group Processes & Intergroup Relations
High Ability Studies
Intelligence
Intelligent Data Analysis
International Journal of Artificial Intelligence in Education (3)
International Journal of Behavioral Development
International Journal of Cognitive Informatics and Natural Intelligence
Japanese Journal of Educational Psychology
Japanese Journal of Psychology
Journal of Applied Measurement
Journal of Behavioral Education
Journal of Clinical and Experimental Neuropsychology
Journal of Cognitive Neuroscience (2)
Journal of Comparative Psychology

Journal of Computers in Mathematics and Science Teaching
Journal of Educational Computing Research (2)
Journal of Educational Psychology (3)
Journal of Experimental Child Psychology (4)
Journal of Experimental Psychology: Animal Behavior Processes
Journal of Experimental Psychology: Applied
Journal of Experimental Psychology: General (2)
Journal of the Indian Academy of Applied Psychology (2)
Journal of the Learning Sciences
Journal of Management Education
Journal of Marketing Education
Journal of Mathematical Behavior (2)
Journal of Neuroscience
Journal of Problem Solving (3)
Journal of Psychology: Interdisciplinary and Applied
Journal for Research in Mathematics Education
Journal of School Psychology
Judgment and Decision Making (3)
Knowledge-Based Systems
Korean Journal of Thinking & Problem Solving (3)
Learning Disability Quarterly
Learning and Individual Differences (6)
Learning and Instruction (2)
Mathematical Thinking and Learning (2)
Memory
Memory & Cognition (3)
Metacognition and Learning
Montana Mathematics Enthusiast (2)
Neural Computation
Neurocase
Neurocomputing
Neuropsychologia (2)
Neuropsychological Rehabilitation
Neuroreport
Neuroscience and Behavioral Physiology
Personality and Individual Differences
Problems, Resources, and Issues in Mathematics Undergraduate Studies (2)
Proceedings of the National Academy of Sciences of the United States of America

Psychological Research (2)
Psychology of Aesthetics, Creativity, and the Arts
Psychonomic Bulletin & Review
Quarterly Journal of Experimental Psychology
Review of General Psychology
Swiss Journal of Psychology
Thinking & Reasoning
Training and Education in Professional Psychology
Voprosy Psychologii

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