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## WORKING PAPER

# Solution representation, diversity and space reduction: A computational experiment with meta-heuristics

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## **Abstract**

In this paper we study the characteristics of population based meta-heuristics that distinguish the procedures from a standard meta-heuristic and that positively contribute to the quality of the solutions obtained. More precisely, we investigate and discuss the importance of a well-considered solution representation, the beneficial effect of diversity in the solution population and the possible improving effect of solution space reduction techniques on the overall quality of the solution. Empirical results are obtained by a computational experiment of different meta-heuristics on resource-constrained project scheduling and personnel scheduling problems.