

**Testing and implementing the PEER model of collaborative problem-solving:  
Project PEERSolvers**

PEERSolvers Research Group<sup>1</sup>

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Project PEERSolvers aims at establishing a valid, evidence-based approach to building young people's capacities for collaborative problem-solving (CPS). Specifically, the Project's goal is to design and test an innovative training program based on the PEER model, i.e., targeting four elements of effective CPS: Personality, Exchange in dialogue, Emotional Intelligence, and Resources. In this paper, we outline the methodological framework for achieving this goal. Overall, the Project will employ a mixed-methods approach and include 600 participants. In the first phase, our objective is to develop a PEER model-based training for adolescents based on data about individual and group-level factors of (un)productive peer interaction; personal themes through which these factors appear in CPS; and adolescents' past experiences with and attitudes towards CPS. These data will be collected in two qualitative studies, via individual interviews with participants and observations of their spontaneous behavior during CPS. In the second phase, our objective is to implement the PEER model-based training and test it in two intervention studies. The first study will examine the training's effects on two group-level variables: quality of interaction during CPS; and quality of the solution to the presented real-world (complex) problems. Also, we will use the data from this study to make final adjustments to the PEER model-based training. The second intervention study will test the effects of the final version of the training on two individual-level variables: scientific and civic problem-solving competencies; and participants' subjective experience of CPS. Both intervention studies will use an experimental design with repeated measures (pretest-training-posttest). The experimental group will receive the PEER model-based training

and have the opportunity to practice CPS in triads with an experienced instructor providing scaffolding and digital media as resources; the control group will also be engaged in CPS but will not receive any training or scaffolding. The above described implementation of the PEER model should yield major insights into the possibility of developing adolescents' capacities for CPS and using it to promote their individual competencies.

Keywords: PEER model, mixed-methods approach, collaborative problem-solving, intervention study, socio-emotional competencies

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