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Title

Towards a Future of Reconciliation: Understanding Conflict and Injustice in Shaping Collaborative Problem Solving among 15-Year-Olds

Research Overview

This study examines how conflict and injustice shape collaborative problem-solving (CPS) among 15-year-olds across 52 countries using PISA 2015 data. Treating CPS as a proxy for reconciliation, it extends existing CPS research by incorporating conflict-related factors and offers preliminary insights for education policy, equity, and peacebuilding.

Purpose of Study

CPS is increasingly recognised as a foundational competency for reconciliation, as it enables individuals to engage in constructive dialogue, manage disagreements, and co-develop solutions in diverse and potentially conflict-affected settings. While existing literature has examined the roles of individual dispositions (e.g., collaboration attitudes), socio-environmental factors (e.g., gender, cultural background), and school-level characteristics (e.g., socioeconomic inequality) in shaping CPS performance, the influence of conflict and injustice remains insufficiently theorised and empirically tested.

This study addresses this gap by conceptualising CPS as a proxy for reconciliation and examining how experiences of conflict and injustice—such as peer violence, perceived unfair treatment, and broader structural inequalities—affect CPS outcomes among 15-year-old students. It adopts a multi-level perspective, considering factors at the individual, household, school, city, and country levels. By doing so, the study aims to extend the CPS determinant framework and contribute to bridging the literature on international education and reconciliation. It further seeks to generate policy-relevant insights on how education systems can foster collaborative competencies in contexts marked by inequality and social tension.

Research Methods

This study employs a pooled cross-sectional quantitative design using data from the OECD Programme for International Student Assessment (PISA) 2015, which uniquely includes an internationally comparable measure of collaborative problem solving. The dataset comprises approximately 125,000 students across 52 countries and economies, providing a rich basis for cross-country analysis.

The empirical strategy is based on regression analysis to estimate the relationship between conflict- and injustice-related variables and students' CPS performance. Key explanatory variables include students' reported experiences of peer threats and violence, perceptions of teacher fairness, and indicators of broader socioeconomic and institutional conditions. To account for the hierarchical structure of the data—students nested within schools and countries—the analysis incorporates multi-level considerations through appropriate model specifications and clustered standard errors.

Control variables include individual characteristics (e.g., gender, socioeconomic status), school-level indicators (e.g., average socioeconomic composition), and country-level contextual factors. This approach allows for isolating the association between conflict/injustice experiences and CPS outcomes while mitigating potential confounding influences. PISA 2015 is particularly suitable for this study as it captures students' ability to collaborate effectively in solving shared problems, reflecting competencies essential for participation in contemporary, interconnected societies.

Results and Discussion

Preliminary findings suggest that experiences of conflict and injustice are systematically associated with lower collaborative problem-solving performance among students. In line with existing evidence, students who report exposure to peer threats, violence, or unfair treatment by teachers tend to exhibit lower CPS scores compared to their peers who do not report such experiences. These patterns are consistent across a range of model specifications, suggesting a robust negative relationship.

Initial results further indicate that the effects of conflict and injustice are not limited to individual experiences but may also reflect broader school and contextual environments. For example, school-level climates characterised by lower levels of trust and fairness appear to be associated with weaker CPS outcomes, highlighting the importance of institutional and relational factors in shaping students' collaborative capacities. These findings underscore the need to consider CPS not only as an individual skill but as one that is embedded within social and institutional contexts.

From a conceptual perspective, the results provide preliminary support for integrating conflict and injustice into the CPS determinant framework and for treating CPS as a

meaningful proxy for reconciliation-related competencies. They suggest that adverse social experiences may hinder the development of skills necessary for constructive engagement and conflict resolution, thereby limiting the potential for reconciliation at later stages of life.

From a policy perspective, the findings point to the importance of fostering safe, fair, and inclusive school environments as a foundation for developing collaborative competencies. Interventions aimed at reducing violence, strengthening teacher–student trust, and addressing structural inequalities may play a critical role in enhancing CPS outcomes and, by extension, supporting reconciliation-oriented education. Ongoing analysis will further test the robustness of these relationships, explore heterogeneity across contexts, and refine the policy implications.

Keywords

Collaborative problem solving; reconciliation; conflict; injustice; PISA 2015