The Impact of Restorative Practice in the Classroom: Evidence from an Experiment in Schools in Bogotá

Oscar Mauricio Díaz-Botia
Paris School of Economics · oscarmdiazb@gmail.com

Extended abstract — September 2026. Full paper in preparation.
AEA RCT Registry: AEARCTR-0015850

Abstract. Schools increasingly invest in socioemotional skills and turn to restorative practices instead of punitive discipline to reduce violence and improve the school environment, but causal evidence on effective approaches is thin, especially in developing countries. I evaluate *Aulas en Re-Conexión*, a restorative practice program delivered at scale by Bogotá's Secretariat of Education in four 90-minute classroom sessions. Schools nominated 208 classrooms "in conflict" and identified victims and aggressors, and half were randomly selected to receive the program. Administrative records covering every student show that the program keeps students in school. Treated students are less likely to leave their school (by 22–32%), to drop out (24%), to be chronically absent (45%), and to repeat a grade (26%). The effects are largest for aggressors, the students most at risk of exclusion. The program also reduces severe incidents: treated victims are 60% less likely to appear in the city's register of severe school incidents. In the short run, classroom relationships improve, test scores rise (especially for aggressors), and victims stop giving in to aggressors in incentivized games. These gains come with short-term psychosocial costs for students in conflict, including lower well-being and more depressive symptoms among victims. A long-run follow-up is underway.

1. Motivation and contribution

About one in three adolescents worldwide experiences bullying or physical violence at school (UNESCO, 2019), and peer violence harms human and social capital. In Bogotá, public schools report about 100,000 serious incidents a year, a third of them peer violence, and 80% of students report suffering emotional or physical violence at school (SED, 2025). To reduce violence and improve the school environment, schools increasingly invest in developing socioemotional skills and replace sanctions and exclusion with restorative approaches that build empathy, self-awareness and perspective-taking, and repair relationships.

The literature on the impact of violence on human capital accumulation is limited, and evidence on effective programs to reduce violence is scarcer still. Emerging work shows that socioemotional programs improve classroom cohesion (Alan et al., 2021) and educational trajectories (Sorrenti et al., 2025), and that restorative practices reduce school violence (Adukia et al., 2025; see also Augustine et al., 2018). Causal evidence on response-type interventions that handle classroom conflict assertively reduces violence and produces learning gains is still missing. The gap is largest in secondary school, where peer violence and dropout are concentrated, and in high-violence, high-migration settings such as Bogotá's public schools. There is also no evidence on who gains and who pays within a classroom when a conflict is addressed.

This paper contributes in three ways. First, it provides experimental evidence on the impact of a response-type scaled, government-delivered program in a developing-country city on school trajectories and performance. Second, each student's role in the conflict is identified *before* randomization. This allows separate effects depending on the role each student had in the conflict for victims, aggressors, and bystanders. Third, it provides evidence on the mechanisms how the program operate using classroom-wide surveys on social networks, dyadic relationship ratings, incentivized behavioral games, academic and cognitive tests, and phsycosocial-wellbeing scales.

2. Setting, intervention, and design

Aulas en Re-Conexión is a structured pedagogical sequence of restorative practices that the School Coexistence Office of Bogotá's Secretariat of Education (*Oficina para la Convivencia Escolar*) delivers through facilitators who are experts in assertive conflict management through restorative practices. It runs during class hours,

in four 90-minute sessions over two to four weeks. The sessions progress from emotional awareness and self-reflection on one's own role in the conflict; to understanding conflict and violence, with an emphasis on empathy and perspective-taking; to a collective analysis of the situations that affect coexistence and of alternatives to violence; and finally to restorative tools and individual and collective reparation agreements. Rather than sanctioning, the workshop seeks to repair damaged relationships and to strengthen the socioemotional skills that sustain a better classroom climate. It targets above all the students who suffer harm (victims) and/or cause it (aggressors).

Sample and randomization. Each participating school nominates one secondary classroom with an active peer conflict that is severe but below the criminal threshold. The school reports the roster, a description of the conflict, and the students involved as victims or aggressors (23% and 12% of students). Classrooms are paired within strata and one of each pair is treated: 208 classrooms across both cohorts.

Timeline. *2025 cohort:* workshops were delivered between May and November 2025, in two rounds, and each classroom was surveyed about a month after its last session. School trajectories are observed in SIMAT in November 2025 and February 2026, and severe incidents in the Alert System for ten months after the first session. *2026 cohort:* workshops ran in the first semester of 2026 and were completed between May and August 2026. The survey was fielded from late July to October 2026, and SIMAT is observed in August 2026. *Long run:* the 2025 cohort is being resurveyed about a year after treatment, from September to November 2026.

Data. (i) *SIMAT*, the city's enrollment registry, covers all public and private schools in Bogotá. It tracks every rostered student's school, campus, classroom, repeater status, and monthly absence, 3–9 months after treatment. (ii) The *Alert System* (*Sistema de Alertas*) is the city's register of severe incidents that schools must report: violence, suicidal behavior, substance use. It is linked to students by national ID (99.7% match) and available for the 2025 cohort for ten months after the first session. (iii) An enumerator spot-check records who is present in the classroom on the survey day. (iv) A one-hour in-class tablet survey is administered in class about one to two months after the workshop, so survey outcomes are short-term. It includes networks, well-being, mental health, victimization, games, and cognitive and curricular tests. For survey outcomes I report Lee (2009) bounds, because treated victims were 5.4 pp more likely to be in school the day of the survey.

Estimation. Following the pre-analysis plan,

$$Y_{ic} = \alpha + \delta_V V_i + \delta_A A_i + \tau T_c + \theta_V (T_c \times V_i) + \theta_A (T_c \times A_i) + \eta_p + \lambda_g + X_i' \gamma + \varepsilon_{ic},$$

with pair and grade fixed effects, PDS-LASSO controls, and SEs clustered by classroom. The coefficient τ is the effect on bystanders, $\tau + \theta_V$ on victims, and $\tau + \theta_A$ on aggressors. The ATE weights these by role shares. I also report randomization inference within pairs and wild-cluster bootstrap p-values for the rare-event outcomes.

3. Results

1. Students stay in school, and aggressors most of all. Table 1 shows that the workshop reduces school exit in both cohorts. Leaving the original school falls by 1.9–2.1 pp (22–32% of the control mean). In the 2026 cohort, being out of Bogotá's school system entirely falls by 1.2 pp (24%). Attendance improves: chronic absence (three consecutive months) falls by 45%. The survey-day spot-check points the same way: treated students are 3.5 pp less likely to be out of class (pooled, control mean 19%). The effect for victims is 5.2 pp, and it replicates across cohorts: in 2025 treated victims are 4.8 pp less likely to be absent and 9.2 pp more likely to answer the survey; in 2026 they are 3.7 pp more likely to be present. Among the 2025 cohort, the share flagged as repeaters the following school year falls by 4.0 pp (26%), and by 7.1 pp for students in conflict. The effects are concentrated among aggressors, the students most at risk of exclusion: their exit from school falls by 5.8–7.8 pp, their dropout by 4.5 pp, and their months absent by 0.23 SD. A restorative rather than punitive response to conflict appears to keep in school precisely the students that exclusionary discipline would push out.

Table 1: School trajectory, administrative records (SIMAT), full roster

	Control	All (ATE)	Bystanders	Victims	Aggressors	In conflict
2026 cohort — August 2026						
Left the original school	0.085	-0.019^{**}	-0.010	-0.012	-0.058^{**}	-0.041^{**}
		(0.007)	(0.010)	(0.020)	(0.028)	(0.017)
Not enrolled anywhere	0.051	-0.012^{**}	-0.004	-0.011	-0.045^{**}	-0.038^{***}
		(0.006)	(0.008)	(0.018)	(0.021)	(0.014)
Absent 3 months running	0.033	-0.015^{***}	-0.008	-0.012	-0.047^{***}	-0.033^{***}
		(0.004)	(0.006)	(0.015)	(0.016)	(0.011)
Months absent [SD]	0	-0.081^{***}	-0.041	-0.075	-0.233^{***}	-0.190^{***}
		(0.026)	(0.035)	(0.077)	(0.081)	(0.060)
2025 cohort — November 2025 / February 2026						
Left the original school (Nov.)	0.066	-0.021^{*}	-0.011	0.017	-0.078^{***}	-0.023
		(0.011)	(0.013)	(0.020)	(0.029)	(0.014)
Moved to another school (Nov.)	0.022	-0.010^{*}	-0.010	0.019	-0.043^{***}	-0.008
		(0.005)	(0.007)	(0.013)	(0.014)	(0.007)
Flagged as repeater (Feb.)	0.153	-0.040^{**}	-0.012	-0.062	-0.062	-0.071^{***}
		(0.019)	(0.023)	(0.044)	(0.038)	(0.026)

Notes: Outcomes are 0/1 shares unless marked [SD]; coefficients in proportion points. Sample is the full roster ($N \approx 3{,}100$–3,200 per cohort), so there is no survey attrition. Pair and grade FE, controls, SEs clustered by classroom. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Aggressor effects on school exit and dropout remain significant at 10% under wild-cluster bootstrap.

Table 2: Severe incidents, Alert System, 2025 cohort (any report within ten months of the first session)

	Any alert			Violence alert		
	Effect (pp)	Control (%)	RI p [q]	Effect (pp)	Control (%)	RI p [q]
All students	-2.5	10.3	0.041 [0.102]	-1.7	7.0	0.163 [0.271]
Bystanders	$+0.8$	7.7	0.592 [0.657]	$+0.9$	4.4	0.502 [0.628]
Victims	$\mathbf{-8.6}$	14.3	**0.003 [0.033]**	-5.0	10.7	0.086 [0.171]
Aggressors	-0.8	15.9	0.795 [0.795]	-2.3	12.1	0.466 [0.628]
In conflict	$\mathbf{-5.9}$	13.8	**0.008 [0.042]**	$\mathbf{-4.7}$	10.5	**0.031** [0.102]

Notes: Outcome = 1 if the student appears in at least one Alert System report from the month of the classroom's first session to ten months later. Full roster, 94 classrooms. Pair and grade FE and the outcome in the four months before treatment. RI = randomization inference, 9,999 within-pair re-draws; q = Benjamini–Hochberg over the 10 primary tests. Placebo over the eleven pre-treatment months: 0 of 40 tests significant at 5%.

2. Severe violence falls for the students in conflict. Table 2 uses the Alert System for the 2025 cohort. Within ten months of the first session, treated victims are 8.6 pp less likely to appear in a severe-incident report (control 14.3%, a 60% reduction), and students in conflict 5.9 pp less likely (43%). Violence reports for students in conflict fall by 4.7 pp (45%). The effect appears from the first months after treatment. It is not driven by schools reporting less. Reports filed by school counsellors do not fall, the other 160,000 students in the same schools show no change, and accidents, reported by the same staff, do not move. The drop is concentrated in cases serious enough to be referred to health or protection services. A placebo test over the eleven months before treatment finds nothing.

3. In the short run, classroom relationships improve. In the 2026 cohort, each student rated a random set of classmates. Victims report better relationships with rated peers (+0.18 SD) and with other victims (+0.30 SD), and less conflictual relationships with aggressors (−0.27 SD). They also receive more reciprocated best friendships (+0.21 SD) and more best-friend nominations (+0.15 SD). Across the classroom, reciprocated friendships rise (+0.07 SD), exclusion nominations fall (−0.05 SD), students name more best friends (+0.09 SD), and pairs of classmates agree more often about the state of their relationship (+0.08 SD; +0.28 SD for aggressors). Aggressors, in contrast, lose support and friendship nominations: peers' ties shift away from them and toward victims.

4. Cognitive and academic tests improve, especially for aggressors. On a curricular test given in the 2026 survey, math fluency rises by 0.10 SD overall and 0.20 SD for aggressors. The math–language academic index rises by 0.07 SD. Pooling both cohorts, aggressors gain 0.13 SD in inhibitory control. Their cognitive composite is also positive (+0.10 SD), though not significant.

5. Victims stand up to aggressors. In incentivized dictator and trust games with named classmates, treated victims stop giving in to aggressors. They share 0.29 SD less with aggressors, and the share of victims who give an aggressor *more* than half falls by 7.6 pp in the dictator game and 8.2 pp in the trust game. Bystanders become more likely to choose restorative over punitive sanctions ($+0.12$ SD).

6. But there are short-term psychosocial costs for students in conflict. Measured about a month after the workshop and pooling both cohorts, victims report lower psychological well-being (-0.10 SD; randomization-inference $p = 0.045$) and more depressive symptoms ($+0.10$ SD). Students in conflict report worse relationships with their teachers (-0.14 SD), while bystanders do not. Victims also trust classmates less overall and do worse in a cooperative coordination game. Whether these costs persist is an open question, and it is the main purpose of the long-run follow-up now in the field. Short-run self-reported victimization is unchanged (I can rule out effects larger than 0.06 SD in either direction). The administrative reduction in severe incidents suggests that the program acts on the most serious cases rather than on everyday peer conflict.

4. Ongoing work (before December)

(i) A long-run follow-up of the 2025 cohort (96 classrooms, about a year after treatment) is in the field through November 2026. It will show whether the short-term well-being costs persist or fade. (ii) I am adding end-of-year grades and grade promotion from school records, and the Alert System for the 2026 cohort (2027 extract). (iii) I am running the teacher survey, the decision-level team-choice experiment, and heterogeneity analysis by gender, migrant status, and conflict type. (iv) I am completing multiple-testing adjustments across the pre-registered families (Romano–Wolf, BKY). A full draft will be available ahead of the meeting.

Acknowledgements and disclosures. This research is funded by J-PAL's Crime and Violence Initiative (CVI), J-PAL's Learning for All Initiative (LAI), and the Center for Effective Global Action (CEGA). The intervention is implemented by the Secretaría de Educación de Bogotá (School Environment Office) under a memorandum of understanding for research purposes; the Secretaría had no role in the analysis or in the decision to disseminate results. The study was approved by the Paris School of Economics IRB (protocol 2025-013) and pre-registered in the AEA RCT Registry (AEARCTR-0015850). The author has no financial relationships or other conflicts of interest relevant to this research. All errors are my own.

References.

Adukia, A., B. Feigenberg, and F. Momeni (2025). "From Retributive to Restorative: An Alternative Approach to Justice in Schools." *American Economic Review* (NBER Working Paper 31675, 2023).

Alan, S., C. Baysan, M. Gumren, and E. Kubilay (2021). "Building Social Cohesion in Ethnically Mixed Schools: An Intervention on Perspective Taking." *Quarterly Journal of Economics* 136(4): 2147–2194.

Augustine, C. H., J. Engberg, G. E. Grimm, E. Lee, E. L. Wang, K. Christianson, and A. A. Joseph (2018). *Can Restorative Practices Improve School Climate and Curb Suspensions?* RAND Corporation, RR-2840-DOJ.

Heckman, J. J., J. Stixrud, and S. Urzua (2006). "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior." *Journal of Labor Economics* 24(3): 411–482.

Lee, D. S. (2009). "Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects." *Review of Economic Studies* 76(3): 1071–1102.

Secretaría de Educación del Distrito (SED) (2025). Bogotá.

Sorrenti, G., U. Zölitz, D. Ribeaud, and M. Eisner (2025). "The Causal Impact of Socio-Emotional Skills Training on Educational Success." *Review of Economic Studies* 92(1): 506–552.

UNESCO (2019). *Behind the Numbers: Ending School Violence and Bullying.* Paris: UNESCO.