Abstract Title Page

Not included in page count.

Title: Improving learning environments and children’s socio-emotional wellbeing in the Democratic Republic of the Congo: Preliminary results from a cluster randomized trial

Authors and Affiliations:

Catalina Torrente, Ph.D.
Yale Center for Emotional Intelligence
Yale University
340 Edwards Street
New Haven, CT, 06520
Tel: (614) 313-6262
Email: catalina.torrente@yale.edu

Brian M. Johnston, M.A.
Social/Personality Psychology
City University of New York, Graduate Center
365 5th Avenue
New York, NY 10034
Tel: 212-998-5561
Email: bjohnston1@gc.cuny.edu

Edward Seidman
Department of Applied Psychology
Steinhardt School of Culture, Education and Human Development
New York University
Kimball Hall, Room 403W
246 Greene Street
New York, NY, 10003
Tel: 212-998-5369
Email: edward.seidman@nyu.edu

Alana Gross
Department of Applied Psychology
New York University
246 Greene Street
New York, NY, 10003
Email: alana.l.gross@gmail.com
Abstract Body

Limit 4 pages single-spaced.

Background / Context:
Description of prior research and its intellectual context.

The last two decades have witnessed increased awareness about the importance of socio-emotional wellbeing for children and youth’s academic and life success (Durlak et al., 2011). Many countries have reformulated their educational policies to incorporate socio-emotional learning (SEL) principles and practices; some have defined concrete benchmarks to track students’ learning of non-academic skills; and a few have seen a proliferation of school-based interventions claiming to improve the quality of learning climates and foster children’s socio-emotional abilities. While policies and programs targeting these skills are fairly widespread, the body of evidence linking them to important student outcomes is largely based on research from the U.S. Much remains to be learned about the effectiveness and potential of educational policies and programs incorporating SEL in other parts of the world.

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

The current study presents preliminary results from an impact evaluation of Opportunities for Equitable Access to Quality Basic Education (OPEQ), a program developed by the International Rescue Committee (IRC) to boost the quality of learning environments and enhance children’s academic performance and socio-emotional wellbeing in the eastern Democratic Republic of the Congo (DRC).

Setting:
Description of the research location.

The study took place in Katanga, an eastern province of the DRC. As of 2013, the DRC ranks second to last in the human development index, an indicator of wellbeing that measures health, education and income (Malik, 2013). Extreme poverty, political unrest, corruption and continued mismanagement of resources have characterized life in the DRC for the past forty years. Since 1986, public financing for education has been subjected to substantial cuts, and the system is largely sustained by household resources. These circumstances have led to declines in education quality, which curtail the life-opportunities of Congolese children and youth.

Population / Participants / Subjects:
Description of the participants in the study: who, how many, key features, or characteristics.

Data for the current study come from the first and second years of a three-year cluster randomized trial of OPEQ. Two hundred and five (205) schools grouped in 54 clusters (i.e., groups of 2-6 schools located in proximity) were invited and agreed to participate in OPEQ. Depending on cluster size, one or two schools from each of the 54 clusters were randomly selected to take part in the evaluation. A total of 84 schools were selected. Schools were located
across six educational subdivisions in the province of Katanga: Kasenga (n=12), Kongolo (n=17), Kalemie (14), Mutshasha (n=15), Lubudi (n=18) and Kambove (n=8).

At baseline, schools had an average of 378 students (SD: 226; min: 82, max: 1,130) and eight classrooms (SD: 2.84; min: 5, max: 16). The majority of schools were Catholic (38.1%) or Protestant (33.3%), but other religious affiliations included Orthodox (7.1%), Kimbanguiste (2.4%) and Muslim (1.2%). On average, 91.7% of schools had no electricity, 3.6% had no roof, 16.7% had no latrines, and 28.6% had no benches.

Students in second through fourth grades were randomly selected to participate in the evaluation. In the second year, 17 to 83 students per school were assessed. The effective sample for this study consists of 8,993 students (34.9% second grade, 33.2% third grade, 31.9% fourth grade) with available data in the constructs of interest. The mean age of the sample is 10.5 years old (SD = 2.0); boys comprise 51% of the sample, and 82% of children speak Swahili as a primary language.

**Intervention / Program / Practice:**
*Description of the intervention, program, or practice, including details of administration and duration.*

OPEQ aims to enhance teachers’ motivation, the quality of school settings and teaching practices, and children’s academic achievement and socio-emotional wellbeing. The intervention has two primary and interrelated components. First, an innovative curriculum which integrates high quality reading and math lessons with IRC’s Healing Classrooms, a protocol of techniques to create safe and inclusive learning environments for all learners, is built into a teacher training package. Second, a school-based collaborative professional development system of continuous in-service teacher training and coaching is implemented. The structure is based on an historical practice of the DRC’s educational system: the Forums of Pedagogical Exchange (FPE). FPE’s consist of teacher-learning circles that are designed to meet: weekly at grade level; monthly at school level; and quarterly at school cluster (2-6 schools) level. FPEs enable teachers to collaboratively explore their practices, brainstorm solutions to challenges and identify and celebrate successes. These services are delivered by Master Trainers (MT; one per cluster of 2 to 6 schools) composed of teachers, headmasters, pedagogical advisors, inspectors and key technical staff from the Ministry of Education.

**Research Design:**
*Description of the research design.*

A public lottery was independently run within each subdivision, whereby clusters were randomized to three treatment cohorts with different start-up years: the Pilot cohort started receiving the intervention in 2011; Cohort 1 started receiving the intervention in 2012; and Cohort 2 began the intervention in 2013. Treatment estimates after one year of the pilot intervention will be obtained by comparing schools in clusters assigned to the Pilot Cohort to schools in clusters assigned to Cohorts 1 and 2.
Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

Data collection. Assent and consent were requested from all children at the time of data collection and refusal to participate was very rare. Parental consent could not be obtained due to insurmountable logistical challenges. However, the Ministry of Education and IRC’s field team widely advertised the evaluation in each school and community to ensure that parents were fully informed and had the opportunity to ask any questions, raise any concerns and opt out. Due to high student mobility and logistical difficulties in tracking children over time, a new sample of students was assessed in the second year. Analyses for the present study focus exclusively on students with data in the second year. Data from the baseline are used as school-level covariates.

Students were administered a demographic and a socio-emotional wellbeing surveys developed by the NYU team, and were randomized to complete a math or reading assessment to reduce participant burden. The complete protocol took no more than 45 minutes per child. The current study centers on the demographic and socio-emotional wellbeing surveys.

Local staff trained by the OPEQ team were in charge of data collection. All surveys and assessments were conducted in French (the official language of instruction), but Swahili (the most common local language) was used for the demographic and socio-emotional wellbeing surveys, and for instructions in the math assessment when children had difficulties understanding French.

Analysis. To examine intervention impacts after one year of the pilot intervention, two-level multilevel models (HLM 6.02 and 7, Raudenbush & Bryck, 2002) were employed which adjusted for the non-independence of students within schools. Four models were separately fitted for each of the four outcomes (i.e., perceptions of supportive schools and teachers, predictable and cooperative contexts; victimization and mental health). Unconditional models (Model 0) without covariates were fitted first, to estimate the amount of variance attributed to differences between schools and between children within schools. Model 1 estimated the intent-to-treat effect of one year of pilot on the outcomes, adjusting for school-level geographical location (i.e., subdivision dummies) and cluster size (i.e., a binary variable comparing clusters where one vs. 2 schools were sampled). Model 2 adjusted for child-level gender and age, and Model 3 included school-level baseline scores on each of the outcomes to explore whether the impacts of OPEQ were affected by the inclusion of schools’ pre-treatment status. The final model (Model 4) included two cross-level interactions to explore if gender and age moderated impact effects. Adequacy of model fit was assessed with deviance statistics using the χ2 distribution.

Findings / Results:
Description of the main findings with specific details.

After one year of the pilot intervention, children in treatment and control schools did not report significantly different levels of predictability and cooperation in the school context (β= -.09, p > .05). However, treatment status was significantly related to children’s perceptions of supportive schools and teachers (see Table 1), with children in the treatment group reporting significantly higher levels of support from teachers and schools than children in the comparison
group (β = .116, p < .05). There were no detectable significant differences in children’s self-reports of victimization (β = .02, p > .05) and mental health problems (β = -.02, p > .05).

Conclusions:
Description of conclusions, recommendations, and limitations based on findings.

Results from our preliminary impact analyses suggest that after one year of a pilot version of OPEQ, there were positive changes on the level of support children perceived from teachers and other school personnel. While further analyses will seek to illuminate the reasons why no change was detected in the other outcomes examined, results are partially in line with OPEQ’s theory of change by indicating that the program had impacts on the quality of learning environments before it influenced other dimensions of children’s wellbeing. Future analyses will use data collected after two years of implementation to explore whether changes to schools and classrooms are part of the mechanisms whereby OPEQ may have positive impacts on children’s academic outcomes and socio-emotional wellbeing.

The importance of non-tangible characteristics of schools and classrooms has come to the forefront in recent years, but the majority of research about these characteristics has originated in the U.S. and other high-income countries. This study expands our knowledge base about the potential of targeting these aspects of children’s learning environments in low-income and war-torn countries such as the DRC. The presentation will provide opportunities to discuss the difficulties and opportunities in attempting to positively impact children’s development across diverse and challenging contexts.
Appendices
Not included in page count.

Appendix A. References
References are to be in APA version 6 format.


### Appendix B. Tables and Figures

_Not included in page count._

Table 1.

*Multi-level Models for Supportive Schools and Teachers*

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRECPT3, $\gamma_{00}$</td>
<td>B</td>
<td>SE</td>
<td>p</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>2.499</td>
<td>0.057</td>
<td>&lt;0.001</td>
<td>2.505</td>
</tr>
<tr>
<td><strong>Child Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>-0.010</td>
<td>0.012</td>
<td>0.395</td>
<td>-0.010</td>
</tr>
<tr>
<td>Age</td>
<td>0.010</td>
<td>0.003</td>
<td>0.001</td>
<td>0.010</td>
</tr>
<tr>
<td><strong>School level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALEMIE, $\gamma_{02}$</td>
<td>-0.492</td>
<td>0.071</td>
<td>&lt;0.001</td>
<td>-0.493</td>
</tr>
<tr>
<td>KONGOLO, $\gamma_{03}$</td>
<td>-0.288</td>
<td>0.098</td>
<td>0.005</td>
<td>-0.289</td>
</tr>
<tr>
<td>MUTSHATS, $\gamma_{04}$</td>
<td>0.105</td>
<td>0.072</td>
<td>0.147</td>
<td>0.105</td>
</tr>
<tr>
<td>LUBUDI, $\gamma_{05}$</td>
<td>-0.061</td>
<td>0.064</td>
<td>0.340</td>
<td>-0.062</td>
</tr>
<tr>
<td><strong>Pilot vs. C 1 &amp; 2</strong></td>
<td>0.106</td>
<td>0.050</td>
<td>0.037</td>
<td>0.106</td>
</tr>
<tr>
<td>2 schools in cluster vs. 1</td>
<td>0.019</td>
<td>0.055</td>
<td>0.734</td>
<td>0.018</td>
</tr>
<tr>
<td>BL Supportive</td>
<td>0.025</td>
<td>0.118</td>
<td>0.836</td>
<td>0.025</td>
</tr>
<tr>
<td>BL Predictable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BL Victimization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tx by gender</td>
<td>-0.021</td>
<td>0.024</td>
<td>0.377</td>
<td>0.000</td>
</tr>
<tr>
<td>Tx by age</td>
<td>0.019</td>
<td>0.055</td>
<td>0.734</td>
<td>0.018</td>
</tr>
<tr>
<td>Deviance</td>
<td>4618.4</td>
<td>4625.7</td>
<td>4629.7</td>
<td>4642.5</td>
</tr>
<tr>
<td># parameters</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>$\chi^2$ statistic</td>
<td>3.960</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>SD</td>
<td>Var</td>
<td>p</td>
<td>SD</td>
</tr>
<tr>
<td>Between schools</td>
<td>0.2</td>
<td>0.0</td>
<td>&lt;0.001</td>
<td>0.2</td>
</tr>
<tr>
<td>Between children</td>
<td>0.4</td>
<td>0.2</td>
<td>0.4</td>
<td>0.2</td>
</tr>
</tbody>
</table>