Opportunities for Equitable Access to Quality Basic Education (OPEQ)
Baseline Report: Teacher Survey Results

Prepared by:
Catalina Torrente, John Lawrence Aber, Dirk Witteveen,
Taveeshi Gupta & Brian Johnston
New York University

Anjuli Shivshanker
International Rescue Committee Research, Evaluation & Learning Unit

Evaluation Team:
Jeannie Annan & Tom Bundervoet
International Rescue Committee Research, Evaluation & Learning Unit

August, 2012
This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the IRC and do not necessarily reflect the views of USAID or the United States Government.

Edits and comments provided by:
Aissatou Balde, Education Technical Advisor, DRC
Youssouf Diallo, Research Advisor, DRC

With special thanks to:
Anita Anastacio, Julia Frazier, Willy Mpwate, Jennifer Sklar, Nina Weisenhorn, the Democratic Republic of Congo Ministry of Primary, Secondary, and Professional Education (MEPSP), and our talented data collection supervisors and enumerators.

Acknowledgments

Thanks to Dr. Edward Seidman for his continued support and to our dedicated research assistants and volunteers at NYU: Emily Jacobson, Todd Solomon, Mahjabeen Raza, Marissa McCoy, Alana Gross, Damira Rasheed, Vanessa Paul and Marian Tes.
# Table of Contents

Executive Summary........................................................................................................... 6

Introduction ....................................................................................................................... 12

Teacher Sample Characteristics...................................................................................... 13

Measures.......................................................................................................................... 13

Descriptive Results........................................................................................................... 15

  Teacher Demographic Characteristics........................................................................ 15

  Teacher Living Conditions........................................................................................... 18

  Teacher Work Conditions............................................................................................ 24

Teacher Motivation and Wellbeing.................................................................................. 29

  Descriptive Results.....................................................................................................

    Motivation, Criticism of School & Job Dissatisfaction............................................. 31

    Burnout & Personal Accomplishment...................................................................... 34

    Role in Children's Socio-Emotional Wellbeing (SEW) and Perceptions of Parent Support.......................................................... 36

Regression Analyses....................................................................................................... 39

  Main Results............................................................................................................... 42

Conclusions and Recommendations.................................................................................. 45
Baseline Report: Teacher Survey Results

List of Tables

Table 1. Number of teachers by subdivision & grade........................................ 13
Table 2. Variability in teachers' age by subdivision...................................... 15
Table 3. Teachers' highest level of education................................................ 16
Table 4. Percentages of who speak each mother tongue across the full sample .......... 16
Table 5. Percentage of teachers who answered yes to household asset and building material questions ................................................................. 18
Table 6. Frequency of hunger in the household .............................................. 21
Table 7. Complete list of teacher variables organized by block.......................... 40

List of Figures

Figure 1. Distribution of mother tongues across subdivisions.......................... 17
Figure 2. Mean teacher wealth by subdivision................................................ 19
Figure 3. Variability in teacher wealth by subdivision..................................... 20
Figure 4. Frequency of hunger in the household by subdivision........................ 22
Figure 5. Percentages of local vs. not local teachers by subdivision.................... 23
Figure 6. Within and between-subdivision variation in teachers' income.............. 25
Figure 7. Scatter plot of total income by income over household consumption in CDF... 26
Figure 8. Frequency of late payment ............................................................ 27
Figure 9. Percentage of teachers who reported school conditions as obstacles to teaching................................................................. 28
Figure 10. Mean scores for teacher motivation, criticism of school and job dissatisfaction................................................................. 31
Figure 11. Variability in teacher motivation, criticism of school and job dissatisfaction

Figure 12. Mean scores for teacher burnout and personal accomplishment

Figure 13. Variability in teacher burnout and sense of personal accomplishment

Figure 14. Mean scores for teacher role in socio-emotional wellbeing and perception of parent support

Figure 15. Variability in teacher role in socio-emotional wellbeing and perception of parent support
Executive Summary

1. Introduction

The International Rescue Committee (IRC), in partnership with Research Triangle Institute (RTI), the Flemish Association for Development Cooperation and Technical Assistance (VVOB) and the Institute of Human Development and Social Change (IHDSC) at New York University (NYU), has undertaken an initiative entitled Opportunities for Equitable Access to Quality Basic Education (OPEQ) with the goal of improving learning conditions, academic performance and social-emotional wellbeing for more than 480,000 girls and boys in three eastern provinces of the Democratic Republic of Congo.

With the dual goals of evaluating and enhancing the impact of its interventions and finding what works to train teachers in post-conflict settings, the IRC and NYU are conducting a cluster-randomized impact evaluation of OPEQ. The present report uses baseline data from the province of Katanga to describe the population of teachers to be reached by OPEQ in this province and to start exploring predictors of teacher motivation and wellbeing. For a description of the overall design and data collection procedures please refer to the child literacy and numeracy baseline report (Torrente et al., 2011).

2. Main Descriptive Results

Teachers basic demographic characteristics

The typical teacher in Katanga is a male in his late 30s, has completed secondary school, expresses a desire to obtain more education, and has taught for an average of 12 to 13 years. Overall, Kambove was the subdivision with the most experienced teachers, whereas Kongolo had the least experienced.

Also, the typical teacher speaks Swahili, although there is great variation within and between subdivisions. Kasenga, for example, stands out for having the least percentage of teachers who speak Swahili. The dominant language in this subdivision is Bemba.

Most teachers in Katanga are married and live with their partner, and they have an average of 4 to 6 biological children, and at least one additional child they need to take care of, as is customary in the DRC.

---

Teachers wealth and income

In terms of wealth, an index combining a series of household assets shows that Mutshatsha and Lubudi were the two subdivisions with the wealthiest teachers, whereas Kongolo was the subdivision with the most economically disadvantaged teachers. There were also notable differences in teacher wealth within each of the six subdivisions.

Teachers’ average monthly income, including income from jobs outside of teaching, was 72,078 CDF (about $79 USD). Notably, the majority of teachers (92%) derived 100% of their total salary from teaching, and the ratio of number of children to salaried adults in a household indicates that teachers are often the only salaried adult in their households.

While teachers annual salaries (calculated over 9 months of teaching) were about 2.4 times the average GDP in DRC, suggesting that the typical teacher was doing relatively well compared to the average Congolese worker, we hypothesize that most teachers experience important economic hardship.

First, a study by UNESCO (2009) comparing over 20 African countries, shows that the average salary of Congolese teachers is one of the lowest in the region and the lowest among the countries with comparable levels of GDP per capita (e.g., Burundi and Ethiopia).

Second, it was alarming to find that teachers’ salaries covered only about 57% of their total household expenses. As teachers in OPEQ schools appear to bring in the only salary in their households, this suggests that their households may not have enough in-kind income or salary to cover monthly expenses.

Third, given that teaching is the only source of income for the overwhelming majority of teachers, delays and incomplete salaries may put teachers under considerable hardship. Unfortunately, the vast majority of teachers (66%) reported being paid late "always".

Interestingly, the reasons why some teachers (17%) take additional paid jobs may not be related to their income. On average, teachers who reported having a job outside of teaching had teaching salaries over the mean for the whole sample ($M=77,653$ CDF, $SD = 47,385$ CDF). Also, 55% of teachers reported taking non-paid jobs outside of teaching. It would be interesting to know what motivates these teachers to take on additional jobs in order to understand how it may relate to their motivation and performance in school.

---

Other living and work conditions

A considerable number of teachers reported their physical health as ‘poor’ (13.8%) or ‘fair’ (36.9%). Moreover, about a fourth of the sample reported that children and adults in their household went to bed hungry 3 to 10 days in the past month, and 5% reported children and adults went to bed hungry more than 10 days in the past month.

The typical teacher was not born in the community where he currently works and was not living in the community when hired as a teacher. However, a large percent of teachers (69.5%) report that at least some of their family members live nearby and an important percent (71.9%) report that some or all of their closest friends live nearby. Only four percent of teachers reported having neither family members nor close friends nearby.

Teachers felt more valued and respected in their local communities than by DRC citizens outside of their community and government leaders. This points of the potential of local communities in supporting teachers’ role, calls for a better understanding of the factors that influence teachers’ perceptions about how valued and respected they are by DRC citizens and government leaders, and highlights an area that needs considerable improvement.

In terms of perceived obstacles to teaching, the lack of teaching materials was reported as the main factor to hinder teachers’ ability to teach, followed by textbooks and blackboards. The OPEQ teacher professional development system emphasizes improving teaching practices and classroom processes, although it provides guidance and templates for how to make instructional materials. It will be interesting to track the response to this question over time to see if perceived barriers continue to be concrete education inputs as there is not strong evidence that increased resources at the school level lead to improvements in learning outcomes (e.g. Duflo, Dupas, & Kremer, 2009; Glewwe, Kremer, Moulin, & Zitzewitz, 2004; Glewwe, Kremer, & Moulin, 2007).

3. Main Results From Regression Analyses

Given teachers’ living and work conditions, it was surprising to find overall high levels of motivation and low levels of job dissatisfaction. However, there was wide variation between teachers, with some teachers reporting low levels of motivation and high dissatisfaction.

Regression analyses suggest that having more teaching experience, better physical health, and a lower number of household members who are unwell were associated with more motivation and less job dissatisfaction. Also, teachers who were born in the community where they teach, who reported that teachers in their school are held accountable for unacceptable behavior and who perceived policy environments as less problematic (e.g., school principal does not have unrealistic expectations, curricula does not change too often, school uses curricula that are not
too difficult for students, etc.) tended to report higher motivation. As expected, teachers who are more motivated report fewer absences than less motivated teachers. Job satisfaction, however, was not associated with teacher absenteeism. Also, teachers who considered the quality of supervision from their school principal as "good", reported less dissatisfaction with their job.

Regarding teacher absenteeism in particular, our analyses suggest that female teachers, teachers who live in households with more people, who need to spend more time traveling to school, who report poorer physical health, who were born outside the community, and who perceive the policy environment as problematic, tended to be more absent from school than male teachers, teachers born in the community and teachers who reported better living and work conditions. The OPEQ intervention may improve the perception of the school policy environment as well as the quality of supervision teachers receive from school principals, which could lead to reduced absenteeism for some teachers.

On average, teachers were highly critical of their school’s approach to teaching. Teachers who reported being required to be at school for more hours and teachers who speak French were more critical of their school, but teachers who felt safe at school and who had a non-paid job outside of teaching tended to be less critical. This could be for example because teachers who are required to stay at school more hours forgo opportunities to recoup the remaining 40% of household monthly expenses through other salaried or non-salaried work, whereas teachers with non-salaried work outside of teaching (e.g. farming) may be more able to cover monthly expenses. Whether this criticism serves to propel teachers to look for alternatives for the improvement of school conditions or whether it diminishes motivation and performance remains an open question.

Teachers also reported moderate levels of burnout and moderate to high levels of personal accomplishment. Again, there was a wide range of variation around the average scores.

Analyses indicate that being a male, having a non-paid job outside of teaching, perceiving higher levels of support from parents, and speaking French were associated with higher sense of personal accomplishment. Interestingly, French-speaking teachers also reported higher levels of burnout, as did teachers with less wealth, more dependent children, more unwell household members and those who reported poorer physical health. While these associations merit further exploration, they suggest that empowering parents to support teachers (for example by visiting school to talk about their children, participating in the parent assembly, helping children get to school every day) may have positive effects on teachers’ sense of accomplishment.

Overall, teachers reported endorsing their role in children’s social-emotional wellbeing. As is the case with the other constructs, variability between teachers within subdivisions is striking.
Teachers in higher grades felt more strongly that they play a role in student’s social and emotional learning. It is possible that school directors chose teachers who are more inclined to attend to the social-emotional needs of children to teach in the higher grades, where children’s behavior and emotional problems may become more evident. Also, teachers who were born in the community where they teach tended to report more endorsement of their role in children’s social-emotional wellbeing. These teachers may feel more connected to their students and thus more responsible for attending all aspects of their development.

4. Conclusions and recommendations

Notwithstanding significant variation between teachers, our results show that on average, teachers in Katanga report being motivated to help children learn and grow, are fairly satisfied with their job and feel that their work is meaningful. These positive attitudes can be used to the advantage of programs like OPEQ, inasmuch as they can serve to engage and maintain teachers' interest in learning new techniques and contents, both of which take effort and perseverance.

In spite of the overall favorable picture, the wide variation between teachers cannot be understated. As expected, some of this variation can be explained by teachers' living and work conditions. Our descriptive analyses corroborate that many teachers in this region may face considerable hardship as a result of late and insufficient payments. Economic hardship is associated with a multitude of problems, such as poor health outcomes, household overcrowding, higher child burden and hunger, all of which can take a toll on teachers' mental health (e.g., burnout, sense of accomplishment), and as suggested by our results, on teachers' motivation and job satisfaction.

There were also factors at the school level, such as accountability and the quality of supervision provided by school directors, which were associated with teachers' motivation and level of job satisfaction. Our results suggest that improvements in these aspects of school culture and functioning can result in improvements in teachers' motivation and satisfaction.

Interestingly, whereas teachers report feeling accomplished, motivated and satisfied, they also report being highly critical of their schools’ approach to teaching academics and supporting children’s social-emotional development. Given children’s low performance in the EGRA and EGMA tests (see Torrente et al., 2011), discontent with the current state of affairs may be positive, in the sense that it may facilitate teachers’ receptiveness to initiatives like OPEQ. Listening to teachers' opinions about practices and policies that are not working is warranted, as they are closer to children and may have valuable insights about how to improve learning conditions in this part of the world.

Finally, it is important to keep in mind that while motivation and its correlates favor performance, they do not guarantee it. Other conditions must be in place for teachers to translate positive attitudes into effective teaching practices. Impact analysis of the OPEQ
evaluation will help determine whether the OPEQ revised curricula and in-service teacher training and coaching system have a positive effect on teacher performance.
INTRODUCTION

The International Rescue Committee (IRC), in partnership with Research Triangle Institute (RTI), the Flemish Association for Development Cooperation and Technical Assistance (VVOB) and the Institute of Human Development and Social Change (IHDSC) at New York University (NYU), has undertaken an initiative entitled Opportunities for Equitable Access to Quality Basic Education (OPEQ). The main objective of OPEQ is to improve primary education in North Kivu, South Kivu and Katanga provinces of the Democratic Republic of Congo (DRC), for more than 480,000 girls and boys.

As part of the IRC’s commitment to gathering evidence about the impact of its interventions, the IRC and NYU are conducting a cluster-randomized impact evaluation of the teacher training and revised curricula components of OPEQ. The impact evaluation will gather evidence about the impact of OPEQ on teachers’ motivation and performance and children’ outcomes; examine whether the impact of OPEQ varies by individuals’ characteristics (e.g., gender, grade), schools (e.g., school size) and communities (e.g., access to resources); make improvements over the life of the project; and inform similar projects and policy efforts in DRC and internationally.

Baseline data were collected in Katanga province from March to May, 2011, to assess teachers’ personal and family characteristics, teacher accountability, perceptions of safety, vocational commitment, and working and living conditions, and other factors that may predict teacher motivation and performance. Data were also collected on children’s living conditions, math and reading performance and socio-emotional wellbeing. Results for these data, with the exception of children’s socio-emotional wellbeing, are summarized in the child baseline report³.

The current report presents descriptive findings and preliminary regression analyses on teachers’ baseline data. Definitive conclusions about the causal impact of the OPEQ initiative on teachers’ motivation and performance cannot be drawn until collection and analysis of follow-up data in 2012 and 2013.

Teacher Sample Characteristics

Four hundred fifty-three (453) teachers from the 84 schools participating in OPEQs baseline data collection were randomly selected and agreed to participate in teacher interviews. Teachers were selected from all grades in elementary schools (1st to 6th) and were 37.9 years old on average and had taught for an average of 12.5 years.

For a description of the overall design and data collection procedures please refer to the child baseline report (Torrente et al., 2011).

Distribution of teachers across subdivisions and grades

The number of teachers interviewed was fairly balanced across grade levels but there were more teachers interviewed in Kongolo and Lubudi than in any other subdivision. Kambove had the least amount of teachers interviewed (See Table 1). These differences are consistent with differences in the number of schools targeted by OPEQ in each subdivision.

Table 1. Number of teachers by subdivision & grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>Subdivision</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kambove</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Kasenga</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Kalemie</td>
<td>13</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>10</td>
<td>10</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Kongolo</td>
<td>14</td>
<td>21</td>
<td>16</td>
<td>16</td>
<td>13</td>
<td>13</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Mutshatsha</td>
<td>14</td>
<td>14</td>
<td>11</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Lubudi</td>
<td>16</td>
<td>15</td>
<td>19</td>
<td>18</td>
<td>13</td>
<td>12</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>87</strong></td>
<td><strong>82</strong></td>
<td><strong>87</strong></td>
<td><strong>64</strong></td>
<td><strong>59</strong></td>
<td><strong>452</strong></td>
<td></td>
</tr>
</tbody>
</table>

Measures

The Teacher Questionnaire was developed by the NYU evaluation team using a combination of pre-validated measures and new items informed by the work of Bennell et al., (2007) and their multi-country study of “Teacher Motivation in Sub-Saharan Africa and South Asia”. The questionnaire aimed to collect information on teacher characteristics that are potential associates of teacher motivation and performance, including demographic information, personal and

---

4 All questionnaires and assessments were administered in French (the official language) and/or Kiswahili (the most common local language in most subdivisions) by local staff trained in data collection procedures by the OPEQ team.

family characteristics, living conditions, safety and security, salary, vocational commitment and teacher burnout, among others.

The baseline questionnaire had a total of 191 items and took on average 57 minutes to complete. This report first provides an overview of key teacher background characteristics (i.e., demographics, living and work conditions) and then focuses on six constructs that we consider critical to understanding teacher motivation and wellbeing in the DRC, namely: Teachers’ motivation and goals, criticism of school, job dissatisfaction, burnout, sense of personal accomplishment, and perception of role in children’s socio-emotional wellbeing. Also, highlights of preliminary regression analyses will be presented that examine the association between teachers’ living and work conditions and their motivation and wellbeing.
DESCRIPTIVE RESULTS

Teacher Demographic Characteristics

**Gender:** The majority of elementary school teachers interviewed were male. Overall, there were almost three times as many male teachers (71.1%) as female teachers (27.2%).

**Age & teaching experience:** Teachers were 38 years old on average, but there was wide variation around that number (see Table 2; in particular note the standard deviations which represent the magnitude of the variation around the mean age). This is reflected in the range of ages found in the sample (17 to 74 years of age). On average, Kasenga had the youngest teachers and Kambove had the oldest.

As expected, teacher age and teaching experience very highly correlated \((r = 0.88)\). On average, teachers in the sample had taught for an average of 12.5 years, but there was tremendous variation in teaching experience with teachers who had as little as 0 years to as much as 54 years of teaching experience.

Kambove had the most experienced teachers (20 years and 4 months on average), whereas Kongolo had the least experienced teachers (8 years and 9 months). Age and experience may be associated with teacher burnout, poor physical health and negative attitudes towards innovation. At the same time, teacher experience may be a proxy of motivation or vocational commitment. We will test these hypotheses in future analysis.

Table 2. Variability in teachers’ age by subdivision

<table>
<thead>
<tr>
<th></th>
<th>Kambove</th>
<th>Kasenga</th>
<th>Kalemie</th>
<th>Kongolo</th>
<th>Mutshatsha</th>
<th>Lubudi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>44.6</td>
<td>33.2</td>
<td>38.3</td>
<td>35.1</td>
<td>39.2</td>
<td>39.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>16.02</td>
<td>11.73</td>
<td>11.30</td>
<td>10.84</td>
<td>15.64</td>
<td>12.85</td>
</tr>
</tbody>
</table>

**Education:** The vast majority of teachers (96.6%) had completed some secondary school. As a matter of fact, over two thirds of teachers had completed full secondary education (67.4%) and, 28.2% had completed up to 4th (26.9%) or 5th grades (1.3%). Interestingly, of the approximately two thirds of teachers who had completed full secondary education, only 3-4\% \((n = 11)\) were over 50 years old. The majority of teachers older than 50 \((n = 65)\) had only completed up to 4th grade. This means that younger teachers had higher educational attainment over older teachers. Also, only 2.2\% of all teachers had attended college or another form of higher education. Importantly, a large number of teachers (85.2\%) expressed a desire to obtain more education or training.
Table 3. Teachers' highest level of education

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary -4th Grade</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>Primary -6th Grade</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>Secondary - 2nd Grade</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>Secondary - 3rd Grade</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>Secondary - 4th Grade</td>
<td>122</td>
<td>26.9</td>
</tr>
<tr>
<td>Secondary - 5th Grade</td>
<td>6</td>
<td>1.3</td>
</tr>
<tr>
<td>Secondary - 6th Grade</td>
<td>306</td>
<td>67.4</td>
</tr>
<tr>
<td>University or Higher Education G1</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>University or Higher Education G2</td>
<td>4</td>
<td>.9</td>
</tr>
<tr>
<td>University or Higher Education G3</td>
<td>5</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>454</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>456</td>
<td></td>
</tr>
</tbody>
</table>

**Mother tongue:** The majority of teachers reported Kiswahili as their mother tongue (see Table 3). However, teachers' mother tongues varied substantively across subdivisions (see Figure 1). Kalemie is the most linguistically homogeneous and Mutshatsha and Lubudi the most heterogeneous. Also notable is the dominance of Kibemba in Kasenga. This is consistent with baseline data from the children's demographic survey: over 93% of children reported Kiswahili as their mother tongue, except in Kasenga, where the vast majority of children speak Kibemba.

Table 4. Percentage of teachers who speak each mother tongue across the full sample

<table>
<thead>
<tr>
<th>Mother Tongue</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kibemba</td>
<td>53</td>
<td>11.7</td>
</tr>
<tr>
<td>Kiluba</td>
<td>27</td>
<td>6.0</td>
</tr>
<tr>
<td>Kisanga</td>
<td>56</td>
<td>12.4</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>137</td>
<td>30.3</td>
</tr>
<tr>
<td>Kiswahili &amp; Other</td>
<td>84</td>
<td>18.6</td>
</tr>
<tr>
<td>Tshokwe</td>
<td>22</td>
<td>4.9</td>
</tr>
<tr>
<td>French</td>
<td>9</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>64</td>
<td>14.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>452</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Figure 1. Distribution of mother tongues across subdivisions

- **Lubudi**
  - Kibemba
  - Kiluba
  - Kisanga
  - Kiswahili
  - Tshokwe
  - French
  - Other

- **Mutshatsha**
  - Kibemba
  - Kiluba
  - Kiswahili
  - Tshokwe
  - French
  - Other

- **Kongolo**
  - Kibemba
  - Kiluba
  - Kiswahili
  - Tshokwe
  - French
  - Other

- **Kalemie**
  - Kibemba
  - Kiluba
  - Kiswahili
  - Tshokwe
  - French
  - Other

- **Kasenga**
  - Kibemba
  - Kiluba
  - Kiswahili
  - Tshokwe
  - French
  - Other

- **Kambove**
  - Kibemba
  - Kiluba
  - Kiswahili
  - Tshokwe
  - French
  - Other

**Number of teachers who speak the language**
Teacher Living Conditions

**Marital Status & Family Composition:** Most teachers reported being married/partnered (81%), and of those who were married/partnered, the vast majority (97.5%) reported living with their spouse/partner. Kambove stood out for having a relatively high percentage of teachers who reported being widowed (13%). This might be related to the advanced age of teachers in this subdivision.

Regarding offspring, 86.7% of teachers reported having children and the average number of biological children was 4.66 (SD = 2.83). Interestingly, teachers reported a higher number of dependent children (M = 5.77, SD = 3.36). On average, teachers had one non-biological child in the household—e.g., surrogate child or adopted child. Very often, Congolese adults adopt the children of relatives or friends due to a range of reasons.

**Household wealth:** Teachers were asked a series of questions about their household assets and building materials to get a sense of teachers’ wealth. Table 4 below summarizes the percentage of teachers who answered "yes" to each of these questions.

Table 5. Percentage of teachers who answered "yes" to household assets and building materials questions

<table>
<thead>
<tr>
<th>Do you or someone in your house own:</th>
<th>% “Yes”</th>
<th>Household materials</th>
<th>% “Yes”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mattress</td>
<td>61.3</td>
<td>1. Aluminum roof</td>
<td>42.2</td>
</tr>
<tr>
<td>2. Motorcycle</td>
<td>58.3</td>
<td>2. Burnt brick walls</td>
<td>24.9</td>
</tr>
<tr>
<td>3. Goats/sheep/pigs</td>
<td>31.3</td>
<td>3. Cement Floor</td>
<td>15.5</td>
</tr>
<tr>
<td>4. Bicycle</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Car</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Cows</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After conducting an exploratory factor analysis the questions above were summed to create a summary wealth index. The total index score ranges from 0 to 9, and a higher score represents higher wealth.

Figure 2 shows the mean index score for each subdivision and Figure 3 shows variability within subdivision. Differences among subdivisions were substantial. Mutshatsha and Lubudi were the two subdivisions with the wealthiest teachers, whereas Kongolo was the subdivision with the most economically disadvantaged teachers. In Kongolo, the maximum score was 3, whereas in all the other subdivisions it was at least 6.
Also, as shown in Figure 3, 100% of teachers in Kongolo got a score lower than the score of 50% of teachers in Lubudi; and 75% got a score lower than the score of 75% of teachers in Mutshatsha.

Also noteworthy is the **variability within subdivisions**. The two wealthiest subdivisions had the largest variability in teachers’ wealth; whereas Kambove and Kongolo were the least diverse. Homogeneity in wealth is an indicator of low or high living standards across the board, whereas heterogeneity is a proxy indicator of inequality.

These data are also consistent with baseline data from the children’s demographic survey. Children from Mutshatsha and Lubudi self-reported greater wealth than children from Kongolo and Kasenga. However, these wealth patterns could signify other characteristics of each subdivision. For example, Kongolo and Kasenga seem to be more rural, making ownership of certain assets irrelevant (e.g., electronic appliances due to lack of electricity) and decreasing access to cars or motorcycles.

Figure 2. Mean teacher wealth by subdivision
Figure 3. Variability in teacher wealth by subdivision

How to interpret boxplots:

- The box (grey) shows the range of wealth for 50% of teachers.
- The horizontal line inside the box is the median wealth (50% of teachers are above this score and 50% of teachers are below this score).
- The lines (or whiskers) coming out of the box on either end show the full range of wealth scores (the maximum and the minimum).
- The line coming from the top of the box represents the top 25%; the line coming from the bottom of the box represents the bottom 25%.
- The “longer” the box and whiskers appear, the more variability is present.
- The dots and stars outside of the lines (or whiskers) show outlier scores.
Salaried employed adults to number of people in the household: The ratio of adults employed to the total number of people in the household was 0.25, which means that on average there is one employed adult for every 4 household members. Since the average number of dependent children was 5.77, it’s likely that the average teacher is the only adult in the house who has salaried employment.

Physical health: A considerable number of teachers reported their physical health as ‘poor’ (13.8%) or ‘fair’ (36.9%); 41.4% said their health was ‘good’ but only 8% described their physical health as ‘excellent’. Health problems may affect all aspects of teachers’ lives, and may interfere with their ability to be present at school and perform well in their jobs.

Hunger: Teachers were asked about the frequency with which adults and children in their household went to bed hungry in the 4 weeks before the survey, an important indicator of economic deprivation. On average, teachers’ answers were nearly identical regarding adults and children; therefore, this report shows results for children’s hunger only.

As shown in the table (Table 6), the majority of teachers reported that children in their household "rarely" went to bed hungry. However, about a fourth of the sample reported that their children went to bed hungry 3 to 10 days in the past month, and 5% reported that their children went to bed hungry more than 10 days in the past month.

Table 6. Frequency of hunger in the household

<table>
<thead>
<tr>
<th>In the past 4 weeks, children went to bed hungry:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely (00-2 days)</td>
<td>70.87%</td>
</tr>
<tr>
<td>Sometimes (3-10 days)</td>
<td>24.08%</td>
</tr>
<tr>
<td>Often (10+ days)</td>
<td>5.05%</td>
</tr>
</tbody>
</table>

There were notable differences in the experience of hunger among subdivisions (see Figure 4); Kalemie had the lowest frequency of hunger and Kasenga the highest. It is noteworthy that no teachers in Kalemie reported that their children went to bed hungry, compared to 14% of teachers in Kasenga. It is also worth highlighting that these two subdivisions are comparable in terms of wealth, as both are among the 3 subdivisions with the lowest household wealth on average. This lends support to the idea that wealth and hunger capture different facets of teachers' living conditions. For example, whereas teachers in rural communities may obtain lower wealth scores as measured by material assets, such as having a mattress or cement floors, they may have more access to agricultural or live stock produce compared to teachers with relatively more wealth but who live in urban areas.
Community ties: Only about a third (32%) of the teachers were born in the community where they currently work. These numbers suggest a high degree of mobility as most teachers work in places other than their home communities. There were some interesting differences across subdivisions (see Figure 5); for example, Kasenga had the highest number of local teachers and Mutshatsha the lowest. As Kasenga also has the highest number of non-Kiswahili speaking students and teachers, this is expected.

Roughly two thirds of the teachers were not living in the community when they were hired nor were they born there, which implies employment may have been among their main motivations to move to the community. Teachers with closer ties to the community may feel more motivated and supported to teach (see for example, Bennell & Akyeampong, 2007). Efforts towards those teachers into the professional and broader community may result in gains in teachers’ sense of belonging and motivation to teach.

---

Figure 5. Percentages of local vs. not local teachers by subdivision

**Social Network:** Most teachers have a social network they can draw support from, suggesting that even though most teachers are not originally from the communities where they work, they are not socially isolated.

The majority of teachers (69.5%) reported at least "some" of their family members live nearby, with a quarter of teachers reporting "all their family members" do. Nonetheless, a considerable number of teachers reported having "very few" (15.9%) or "no family members" (14.6%) nearby.

Importantly, 71.9% of teachers reported having "some" to "all" of their closest friends nearby, and only 8.9% reported having no close friends nearby. Four percent (4%) of teachers reported having neither family members nor close friends nearby. Teachers with no close friends or family nearby may have a harder time coping with hardship due to the lack of social support and may be less able to perform well at their job.
Teacher Work Conditions

**Occupational status:** Teachers felt more valued and respected in their local communities than by DRC citizens outside of their community and government leaders. Almost two thirds of teachers (59\%) felt they were "very" or "fairly" respected by parents and local leaders, while only 35\% reported feeling “very” or “fairly” valued by other DRC citizens and leaders. However, 17\% of teachers felt "none" to "very little" respect from their own community members; and 40\% of teachers reported feeling they are "very little" or "not" valued by DRC citizens and leaders valued.

The positive perceptions about local communities may favor community strategies to influence teachers’ attendance, motivation, and performance. Community engagement strategies to improve the quality of the school environment may also help increase the degree to which teachers feel valued by their local community. Nevertheless, these data call for a better understanding of the factors that influence teachers’ perceptions about how valued and respected they feel. Particularly the perceptions of value and respect from DRC citizens and government leaders and highlights an area that needs considerable improvement.

**Income**

Teachers’ average monthly income, including income from jobs outside of teaching, was 72,078 CDF (about 79 USD). Given that the annual GDP for the DRC was 300 USD in 2011, the average teacher annual salary (calculated over 9 months of teaching) is about 2.4 times the average GDP. In addition, teaching salaries accounted for 97\% of teachers’ total income on average. This percentage remained virtually the same when only teachers who held jobs outside of teaching were included in the analysis. Only 17\% of teachers (about 70 teachers) reported having a paid job other than teaching in the last year.

The above data suggest that relative to other employment in the DRC, teaching appears to be a well-paid job. Nonetheless, a study by UNESCO (2009)\(^7\) comparing over 20 African countries shows that the average salary of Congolese teachers is one of the lowest in the region, and it is the lowest among the countries with comparable levels of GDP per capita (e.g., Burundi and Ethiopia). In addition, the average monthly household consumption expenditures\(^8\) reported by teachers in our sample was 168,113 CDF (about $182 USD), and the average monthly household consumption per capita was 27,364 CDF (about $30 USD), indicating that while the average teachers earns a relatively good income, it covers slightly less than 50\% of their monthly household expenditures.

The implications of these findings are two-fold. On the one hand, since teaching is the only source of income for most teachers, delays and incomplete salaries may put teachers under considerable hardship. They may need to pursue non-salaried employment (e.g., farm work) in


\(^8\) Total monthly Household Consumption Expenditures includes questions about rent, food, transportation, etc.
order to provide for their households, which likely would negatively impact the amount of
time, energy and motivation they have to dedicate to their teaching job as outside salaried
employment would. On the other hand, the reasons why some teachers are taking additional
jobs may not be related to their income. It was interesting to find that on average, teachers who
reported having a job outside of teaching had teaching salaries over the mean for the whole
sample ($M=77,653$, $SD = 47,385$). It would be interesting to know what motivates these teachers
to take on additional jobs.

In addition, the large amount of within and between-subdivision variation illustrated in Figure
6 suggests that the overall mean salary does not adequately represent all teachers’ economic
conditions. In particular, it is worth highlighting the wide range of variation in salaries within
Kambove, Mutshatsha and Lubudi. Within-subdivision variation is important because a sense
of deprivation relative to other teachers in the same subdivision may more powerfully
undermine teacher motivation than deprivation relative to teachers in the whole country.

Figure 6. Within and between-subdivision variation in teachers’ income
Teachers’ salaries (including jobs outside of teaching) covered only about 57% of total household consumption on average. This means that teachers need to rely on additional sources of income (e.g., partner’s or children’s salaries, non-salaried employment) to cover the totality of household needs. Since we already know that teachers are often the only employed adult in the household, this finding suggests that more often than not, teachers cannot cover all their expenses. The relatively low variability in income over consumption ratios across and within subdivisions contrasts with variability in income, and may be a reflection of differences in the costs of living across subdivisions. Therefore, teachers with higher incomes do not necessarily cover a higher proportion of their household expenses, as illustrated by the relatively flat line in the scatter plot below (see Figure 7).

Figure 7. Scatter plot of total income by income over household consumption in CDF
**Payment delays** The vast majority of teachers reported being paid late "always" (66%) and an important number reported being "often" or "frequently" paid late. Only 4.3% of teachers reported "rarely or never" being paid late (see Figure 8). This is noteworthy as poor work conditions may have a detrimental impact on teachers’ motivation and performance and, as indicated above, it is particularly concerning as 97% of teachers’ income comes from teaching and teachers are often the only salaried employed adult in the household.

Figure 8. Frequency of late payment

![Histogram showing frequency of late payment](image)

**Employment outside of teaching** About 55% of teachers (57.7% male, 50% female) reported having a non-paid job outside of teaching in the last year and, as mentioned above, 17% of teachers (9.6% female, and 19.6% male) reported having another paid job. These numbers speak of the extent to which teachers juggle responsibilities that may compete with their ability to teach. In particular, more than half of the teachers reported having a job outside of teaching that was not an additional source of income. This could include jobs like household farming, which provides household inputs (food) but not income. Knowing what motivates teachers to engage in additional non-paid jobs would enable us to understand how this may impact or be related to their motivation and performance in school.

**Obstacles to teaching** Teachers were asked to rate the degree to which a number of school conditions made it difficult to teach at their school in a scale from 0 ("does not make it difficult") to 3 ("makes it very difficult"). Nearly half of the teachers agreed that the lack of teaching materials and benches were the two factors that made it "very difficult" to teach at their school, followed by textbooks and blackboards. The temperature, lighting and number of students in the classroom were not perceived as obstacles to teaching by the majority of teachers interviewed.
While the baseline survey did not allow teachers’ to provide another response, given the very low scores of all students on Early Grade Reading and Early Grade Math Assessments, in future years it would be interesting to investigate whether teachers’ perceive students’ lack of basic skills, particularly in French literacy, as an obstacle to teaching.

Figure 9. Percentage of teachers who reported school conditions as obstacles to teaching
TEACHER MOTIVATION AND WELLBEING

Teachers were asked a series of questions to measure their overall level of motivation and wellbeing. After preliminary statistical analysis (i.e., Exploratory Factor Analysis, Internal Reliability), 7 factors were found to be theoretically and statistically sound. These 7 constructs were measured as follows:

1. **Motivation** (9 items, $\alpha = .80$). The questions to measure teachers’ motivation and goals were developed by the NYU team based on the work by Bennell et al., (2007), and asked teachers to rate on a scale of 0 ("completely false") to 3 ("completely true") their level of agreement with a set of statements such as "I’m highly motivated to help children learn to read and write", "I’m satisfied with my decision to be a teacher".

2. **Criticism of school** (4 items, $\alpha = .89$). Teachers rated on a scale of 0 ("completely false") to 3 ("completely true") the extent to which they questioned their school’s approach to teaching and nurturing children’s development. For example, they were asked to rate the degree to which they "Question the school’s approach to teaching reading and writing". The questions were developed by the NYU team.

3. **Job dissatisfaction** (4 items, $\alpha = .69$). This construct was also measured with a series of items developed by the NYU team. Teachers rated on a scale from 0 ("completely false") to 3 ("completely true") the degree to which each of the statements was true for themselves and for other teachers at their school. The statements were "I want to transfer to another school", and "I want to leave the teaching profession".

4. **Teacher burnout** (9 items, $\alpha = .73$). The nine questions tapping into burnout were taken from the Maslach Burnout Inventory (1996)\(^{10}\). Teachers used a scale from 0 ("never") to 6 ("every day") to indicate, for instance, how often they have felt "Mentally drained from their work", or "Fatigued when they wake up in the morning".

5. **Personal accomplishment** (6 items, $\alpha = .67$). Teachers were asked about their sense of personal accomplishment with six questions from Maslach Burnout Inventory (1996)\(^{11}\). Teachers rated the degree to which they feel that they are "positively influencing other people’s lives" on a scale from 0 ("never") to 6 ("every day").

---


\(^{11}\) Idem.
6. **Teachers’ role in children’s socio-emotional wellbeing** (SEW; 4 items, $\alpha = .84$). The questions about teachers’ perception of their role in children’s socio-emotional wellbeing come from a previously validated measure (see Ryan, Gheen, & Midgley, 1998)\(^{12}\), and ask teachers to rate on a scale of 0 ("strongly disagree") to 4 ("strongly agree") their level of agreement with statements like “Teachers play an important role not only in their students’ learning, but also in the way their students feel about themselves and life in general” and “Teachers need to frequently think about their students’ mental health and wellbeing”.

7. **Perceptions of parent support** (7 items, $\alpha = .74$). Questions about teacher’s perceived parent support were developed by the NYU team and asked teachers to rate on a scale from 0 ("not at all") to 4 ("quite a lot") the extent to which parents support their work by, for instance, “Sharing your values about how children should behave in school?” and “Expecting their children to show respect to you and other teachers?”. Unlike the other 6 constructs, perception of parent support was used as a predictor instead of an outcome in regression analyses.

---

DESCRIPTIVE RESULTS

Motivation, Criticism of School & Job Dissatisfaction

On average, teachers reported high levels of motivation and low levels of dissatisfaction with their job. Interestingly, they also reported being highly critical of their school's approach to teaching (see Figure 10). These results suggest that these teachers are eager to help children learn, and whereas they are highly critical of the specific pedagogical approaches taken by their schools, they are still satisfied with their decision to become teachers and do not want to leave the teaching profession or transfer to another school.

Figure 10. Mean scores for teacher motivation, criticism of school and job dissatisfaction

It is important to keep in mind that in spite of the relatively positive results, there is ample variability between teachers, schools, clusters (i.e., groups of 2-6 schools), subdivisions and among constructs (see pie charts below), indicating that the mean scores do not reflect the reality of many teachers in our sample.

As the pie charts show, there is substantial variation between teachers (43.14%-85.41%) and between clusters (1.73-12.87%) in all 3 constructs, and large variability between subdivisions
regarding teacher criticism of school (36.87%) but not teacher motivation (5.05%) or job dissatisfaction (1.73%). Thus, whereas in all cases the largest percentage of variance in teachers’ attitudes (motivation, criticism, dissatisfaction) is attributable to differences in teachers’ individual characteristics, there is a large proportion to be explained by factors at the school, cluster and subdivision levels. This highlights the fact that in addition to working with individual teachers, there is a lot that can be accomplished by targeting the school, cluster and subdivision levels.

13 While we do not present percentages of variance at the school level, additional analyses show that some of the variation found between teachers and clusters can be accounted for by differences between schools.
The boxplots (see Figure 11) further illustrate variation between teachers within subdivisions. For example, Kongolo and Lubudi stand out by having the largest amount of variation in teacher motivation. As the bottom whiskers suggest, about 23% of teachers in Kongolo and Lubudi scored below 2 in a scale from 0 to 3, which means that on average these teachers thought that statements like "I’m highly motivated to help children learn to read and write" were completely false or somewhat false for themselves.

Figure 11. Variability in teacher motivation, criticism of school and job dissatisfaction

How to interpret boxplots:
- The boxes (grey, green and blue) show the range of scores for 50% of teachers.
- The horizontal line inside the box is the median score (50% of teachers are above this score and 50% of teachers are below this score).
- The lines (or whiskers) coming out of the box on either end show the full range of scores (the maximum and the minimum).
- The line coming from the top of the box represents the top 25%; the line coming from the bottom of the box represents the bottom 25%.
- The “longer” the box and whiskers appear, the more variability is present.
- The dots and stars outside of the lines (or whiskers) show outlier scores.
**Burnout & Personal Accomplishment**

On average, teachers reported moderate levels of burnout and moderate to high levels of personal accomplishment (see Figure 1). However, there is important variation around those means.

Figure 12. Mean scores for teacher burnout and personal accomplishment

![Bar chart showing mean scores for burnout and personal accomplishment](image)

The pie charts below show the percentage of variance that resides between teachers, clusters and subdivisions. While most of the variability in burnout (82.21%) lies between teachers, there is an important amount of variation that can be accounted for by differences between clusters and subdivisions. In addition, a small part of the variability between teachers can actually be accounted for by differences between schools.

Regarding personal accomplishment, there is relatively less but still very substantial variability between teachers (63.67%), and relatively more variability to be explained by differences between clusters and subdivisions. While personal accomplishment can be thought of as an outcome mainly determined by individuals' characteristics, such as the ability to set and accomplish meaningful personal goals; the findings support the fact that there are characteristics of clusters and subdivisions that powerfully impact teachers' personal sense of
accomplishment. Characteristics of these settings need to be targeted when teachers' individual wellbeing is at stake.

As shown by the boxplots (see Figure 13), scores for these two constructs are spread across the whole range of responses. In Kasenga, Mutshatsha and Lubudi, for example, there are teachers who reported extremely high levels of burnout and in Kongolo there are teachers who experienced dramatically low levels of personal accomplishment. Ideally, OPEQ will reduce the variability between teachers who are at the high and low ends of the spectrum.

Figure 13. Variability in teacher burnout and sense of personal accomplishment
How to interpret boxplots:

- The boxes (grey, green and blue) show the range of scores for 50% of teachers.
- The horizontal line inside the box is the median score (50% of teachers are above this score and 50% of teachers are below this score).
- The lines (or whiskers) coming out of the box on either end show the full range of scores (the maximum and the minimum).
- The line coming from the top of the box represents the top 25%; the line coming from the bottom of the box represents the bottom 25%.
- The “longer” the box and whiskers appear, the more variability is present.
- The dots and stars outside of the lines (or whiskers) show outlier scores.

Role in Children’s Socio-Emotional Wellbeing (SEW) & Perceptions of Parent Support

On average, teachers in our sample believe they have a central role in children’s SEW and reported receiving “some” to a “fair amount” of support from children’s parents (see Figure 14).

Figure 14. Mean scores for teacher role in socio-emotional wellbeing and perception of parent support.

14 These constructs are on the same graph because they use the same response scale and combining them makes for easier viewing. They are not related conceptually.
As with the other constructs examined in the current report, variability between teachers and across clusters and subdivisions is substantial. In terms of how variance is distributed, most of the variability lies between teachers, more so for perceptions of parent support than for teachers’ role in SEW (see pie charts below). The percentage of variation at the subdivision level for teachers’ beliefs about their role in children’s wellbeing is noteworthy, as it suggests that there are factors at the subdivision level that explain differences in how teachers perceive their role in supporting socio-emotional aspects of their students’ lives.

The distribution of variance for perceived parent support is also worth highlighting, as it suggests that there is more variability between teachers’ perceptions of parent support between individual teachers within clusters than there is variability between clusters. This indicates that differences in perceived parent support are mainly attributable to parents’ or teachers’ idiosyncrasies and to a much lesser extent to cultural or economical differences between regions. Importantly, some of this variability between teachers can potentially be explained by differences between schools, which will be explored in future analyses.

As previously noted, variability between teachers within subdivisions is striking (see Figure 15). Notice for example the spread of scores for teacher role in SEW in Kongolo. Whereas most of the teachers in this subdivision reported moderate to high levels of endorsement of their role in SEW, 25% of teachers were "neutral", "disagreed" or "completely disagreed" with statements that placed responsibility on teachers’ to attend children’s SEW needs. This is in contrast with the picture in Kambove and Kalemie, where a hundred percent of teachers –with the exception of a couple of outliers– reported that they "agree" or "strongly agree" with the same kind of statements.

The variation in teachers’ perceptions of parental support in Kalemie, Kongolo and Lubudi is also notable. In these 3 subdivisions, roughly 25% of teachers reported they receive "some", "very little" or "no" support from students’ parents.
Figure 15. Variability in teacher role in socio-emotional wellbeing and perception of parent support

How to interpret boxplots:
- The boxes (grey, green and blue) show the range of scores for 50% of teachers.
- The horizontal line inside the box is the median score (50% of teachers are above this score and 50% of teachers are below this score).
- The lines (or whiskers) coming out of the box on either end show the full range of scores (the maximum and the minimum).
- The line coming from the top of the box represents the top 25%; the line coming from the bottom of the box represents the bottom 25%.
- The “longer” the box and whiskers appear, the more variability is present.
- The dots and stars outside of the lines (or whiskers) show outlier scores.
REGRESSION ANALYSES

Introduction
Multi-level models were fitted in HLM (V. 6.06, Raudenbush & Bryk, 2002) to explore the associations between teacher personal characteristics and living conditions and teacher outcomes (e.g., motivation, burnout, job dissatisfaction).

Teacher characteristics, were grouped in blocks of variables (see Table 7) hypothesized to be conceptually related. Analyses were run entering one block at a time, and then stacking blocks (1 and 2, 1, 2 and 3 and so on) starting with those thought to be more permanent characteristics (e.g., gender, age) and ending with those more directly related to teachers' experiences in school (e.g., time to travel to school and class size). This analytic strategy allows us to get a sense of the association of each block and the outcome when the variance shared with variables in other blocks is, or is not, adjusted for.

Dummies\textsuperscript{15} for all subdivisions (with Kalemie as the reference group) were included at the cluster level to adjust for differences between these geographical units. This means that all results should be interpreted net of differences between subdivisions. In other words, since Kalemie is the reference group, the intercept represents the mean for Kalemie and coefficients for all predictors represent the estimated increase in the score relative to that mean.

Also, in this report we describe results from models in which the shared variance between all variables is adjusted for (i.e., all blocks simultaneously entered), but mention results from other models when needed. That means that for most of the models summarized in this report, the association between a particular variable and the outcome represents the unique contribution of that variable to the prediction of the outcome, net of the association between that variable and other variables included in the model.

\textsuperscript{15} Dummy variables are commonly used in regression analysis when dealing with categorical or nominal information, of the sort of subdivisions, race or gender. To include information on 3 race groups in a regression analyses, for example, we create 3 dummy variables where (1) Black = 1, Not Black = 0, (2) Asian = 1, Not Asian = 0, and (3) White = 1, Not White = 0. When fitting the model, we exclude one of the three variables to avoid redundancy, and the excluded group becomes the reference. Thus, if we exclude Black, the regression coefficients for Asian and White will represent the increase in the outcome for Asians and Whites relative to Blacks, but if we exclude Asian, the coefficients will represent the increase in the scores for the other two groups compared to Asians.
Table 7. Complete list of teacher variables organized by block

<table>
<thead>
<tr>
<th>Block</th>
<th>Variable Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subdivision</td>
<td>dummy code intercept for Kalemie (reference group)</td>
</tr>
<tr>
<td></td>
<td>dummy code for Kambove</td>
</tr>
<tr>
<td></td>
<td>dummy code for Kasenga</td>
</tr>
<tr>
<td></td>
<td>dummy code for Kongolo</td>
</tr>
<tr>
<td></td>
<td>dummy code for Mutshatsha</td>
</tr>
<tr>
<td></td>
<td>dummy code for Lubudi</td>
</tr>
<tr>
<td>Block 1</td>
<td>Gender (0= male)</td>
</tr>
<tr>
<td></td>
<td>Years of experience</td>
</tr>
<tr>
<td></td>
<td>Swahili dummy (1= yes)</td>
</tr>
<tr>
<td></td>
<td>French dummy (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Marital status (1= Married)</td>
</tr>
<tr>
<td></td>
<td>No. Children currently depend on you</td>
</tr>
<tr>
<td></td>
<td>Child burden (children/adults)</td>
</tr>
<tr>
<td></td>
<td>Ratio of # of people per room</td>
</tr>
<tr>
<td></td>
<td>Did father attend school? (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Did mother attend school? (1= yes)</td>
</tr>
<tr>
<td></td>
<td>How many siblings (5=5+)</td>
</tr>
<tr>
<td></td>
<td>Any of your siblings attend school? (1= yes)</td>
</tr>
<tr>
<td>Block 2</td>
<td>Born in community where you currently live (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Living in community when hired (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Close family members nearby? (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Close friends nearby? (1= yes)</td>
</tr>
<tr>
<td>Block 3</td>
<td>Physical health (0= poor, 3= excellent)</td>
</tr>
<tr>
<td></td>
<td>Ratio # sick to total household members</td>
</tr>
<tr>
<td></td>
<td>Adult hunger (0= rarely, 2= often)</td>
</tr>
<tr>
<td>Block 4</td>
<td>Paid job outside teaching last year? (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Non-paid job outside of teaching last year? (1= yes)</td>
</tr>
<tr>
<td></td>
<td>Total benefits (Salary+bonus+other)</td>
</tr>
<tr>
<td></td>
<td>Wealth Index</td>
</tr>
<tr>
<td></td>
<td>Total household consumption</td>
</tr>
<tr>
<td></td>
<td>Income/Consumption ratio</td>
</tr>
<tr>
<td>Block 5</td>
<td>Time to travel to school (hours)</td>
</tr>
<tr>
<td></td>
<td>Travel safety (0= very unsafe, 3= very safe)</td>
</tr>
<tr>
<td></td>
<td>In school safety (0= very unsafe, 3= very safe)</td>
</tr>
<tr>
<td></td>
<td>How many students do you have in your classroom?</td>
</tr>
<tr>
<td></td>
<td>Hours required to be at school</td>
</tr>
<tr>
<td></td>
<td>Hours required to work outside school in preparation</td>
</tr>
<tr>
<td></td>
<td>Teachers responsible for unacceptable behavior (0= No, -3= Yes, ...)</td>
</tr>
<tr>
<td>Block 6</td>
<td>Days Absent</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>Quality of principal/director supervision (0= poor, 3= excellent)</td>
</tr>
<tr>
<td></td>
<td>Parent Support (EFA) higher values higher support</td>
</tr>
<tr>
<td></td>
<td>Policy Environment (EFA) higher values more problematic</td>
</tr>
<tr>
<td></td>
<td>Teacher Motivation &amp; Goals (EFA) (0=completely false, 3=completely true)</td>
</tr>
<tr>
<td></td>
<td>Job Dissatisfaction (EFA) (0=completely false, 3=completely true)</td>
</tr>
<tr>
<td></td>
<td>Teacher criticism (EFA) (0=completely false, 3=completely true)</td>
</tr>
<tr>
<td></td>
<td>Teacher Role (EFA) higher values greater SEL role</td>
</tr>
<tr>
<td></td>
<td>Teacher Burnout (EFA) (0=never, 6= everyday)</td>
</tr>
<tr>
<td></td>
<td>Personal Accomplishment (EFA) (0=never, 6= everyday)</td>
</tr>
</tbody>
</table>
MAIN RESULTS

1. Teacher basic demographics & Household arrangements (Block 1)
   a. Though teacher gender does not consistently relate to all the outcomes, male teachers tend to have higher scores on Accomplishment and female teachers tend to be Absent on more days than male teachers.
   b. As would be expected, those teachers who report having more teaching experience also report having less Job Dissatisfaction.
   c. Interestingly, it is those teachers who teach in higher grades that feel more strongly that they play a Role in student’s Social and Emotional Learning. It may be that teachers who are more aware of their role in children’s social-emotional development are selected to teach higher grades, where curriculum is considered more challenging. Alternatively, school directors may assign teachers more inclined to pay attention to children’s social-emotional needs to the higher grades, as children’s behavioral and emotional problems may become more apparent as they approach adolescence.
   d. Further, speaking French seems to be advantageous as teachers who speak French also feel that have Accomplished more personally yet they Burnout faster. Those teachers who speak French are also more Critical of their school’s approaches to teaching.
   e. When teachers have more children dependent on them, they tend to Burnout faster. At the same time, when there are more people in the house, there is a trend for those teachers to be more Absent. Teachers who are married also tend to be more absent than teachers with no partners.

2. Community Embeddedness (Block 2)
   a. Being born in the community where a teacher currently resides is advantageous for teachers. These teachers tend to be more Motivated, show a trend towards playing a strong Role in the student’s Social and Emotional Learning and tend to be Absent fewer days.

3. Health & Hunger (Block 4)
   a. As expected, those teachers who are in better physical health report a trend for less feelings of Burnout, more Motivation and are Absent fewer days.
   b. Similarly, teachers who have members of their household who are unwell (ratio of sick household members) report higher Burnout and lower levels of Motivation.
4. **Job & Income (Block 5)**

   a. Teachers who have a **non-paid job outside teaching** report more feelings of Personal Accomplishment. At the same time, they also show a trend towards less Criticism about the school.
   
   b. Teachers who report higher **wealth** report less feelings of Burnout.

5. **Work Conditions (Block 6)**

   a. As expected, when teachers have to spend more **time traveling to school**, they tend to be Absent on more days.
   
   b. When they feel that their **school is safe**, teachers are less Critical of their school. However as the **number of hours they are required to be at school** increases, they are more Critical.
   
   c. If teachers are responsible for unacceptable behavior consistently, they show a trend for being more Motivated.
   
   d. Teachers who feel that the **quality of principal supervision** is good also report being less Dissatisfied with their Job, although they report feeling more Burnout. It would be useful to clarify what teachers mean by supervision as it may imply different activities for different teachers.
   
   e. Teachers who feel that they have **parental support** report higher feelings of Accomplishment.
   
   f. When teachers perceive that the **policy environment** is problematic, they are less Motivated and are Absent on more days from work.

6. **Days Absent (Block 6)**

   a. Those teachers who are **absent** on more days from work are also less Motivated.

Other less clear associations:

- Teachers who were married, living in the community when hired, who perceived more support from parents and had higher levels of wealth, reported being more **absent** from school. Also, teachers who perceived more support from parents and who had higher salaries reported higher levels of **burnout**, and teachers able to cover more of their household expenses with their income (income/consumption ratio) were significantly less **motivated** and tended to be more **critical** of their school. It is unclear why these
presumably positive factors will result in more absenteeism, burnout, criticism of schools, and less motivation.

- Teachers who reported having more siblings were significantly more critical of their school, and teachers with siblings who attended school tended to feel less accomplished than teachers with non-educated siblings. The link between these family features and teachers’ views of themselves and their schools is rather puzzling. Regarding accomplishment, teachers from relatively less educated families may value their teaching job to a greater extent than teachers from more educated families, as they may be the first ones in their family to have accomplished an education. Also, they may be more admired by their families than teachers with educated siblings, and this may contribute to their positive perceptions of their job.

- Teachers who reported feeling safer in school were less motivated to teach than teachers who felt less safe. Perhaps teachers who teach in relatively unsafe schools feel more of a need and commitment to educate children as a means to change unsafe conditions and make a contribution to their communities.

- Finally, teachers who perceived policy environments as more problematic showed a trend for endorsing their role in children's social emotional learning to a greater extent than teachers who saw policy as least problematic.
CONCLUSIONS AND RECOMMENDATIONS

Notwithstanding significant variation between teachers, our results show that on average, teachers in Katanga report being motivated to help children learn and grow, are fairly satisfied with their job and feel that their work is meaningful. These positive attitudes can be used to the advantage of programs like OPEQ, inasmuch as they can serve to engage and maintain teachers' interest in learning new techniques and contents, both of which take effort and perseverance, particularly as OPEQ does not provide monetary or in-kind compensation for time spent in these activities.

In spite of the overall favorable picture, the wide variation between teachers has significant implications. As expected, some of this variation can be explained by teachers' living and work conditions. Our descriptive analyses corroborate that many teachers in this region may face considerable hardship as a result of late and insufficient payments. Economic hardship is associated with a multitude of problems, such as poor personal and family health, household overcrowding, higher child burden and hunger, all of which can take a toll on teachers' mental health (e.g., burnout, sense of accomplishment), and as suggested by our results, on teachers' motivation and job satisfaction. The OPEQ project does not address any of these factors; although school improvement plans and COPAs or CGSEs could choose to provide financial compensation to show teacher appreciation. This could mean that the effect of the OPEQ project will be muted due to economic hardship.

There were also factors at the school level, such as accountability and the quality of supervision provided by school directors, that were associated with teachers' motivation and level of job satisfaction. Our results suggest that improvements in these aspects of school culture can result in improvements in teachers' motivation and satisfaction. As the OPEQ project specifically aims to improve the quality of supervision provided by school directors, we could expect to see improvements in teacher motivation and satisfaction.

Interestingly, whereas teachers report feeling accomplished, motivated and satisfied, they also report being highly critical of their schools' approach to teaching academics and supporting children's social-emotional development. Given children's low performance in the EGRA and EGMA tests (see Torrente et al., 2011), discontent with the current state of affairs may be positive, in the sense that it may facilitate teachers' receptiveness to programs like OPEQ. Listening to teachers' opinions about practices and policies that are not working is warranted, as they are closer to children and may have valuable insights about how to improve learning conditions that fit the context.

Finally, it is important to keep in mind that while motivation and its correlates favor performance, they do not guarantee it. Other conditions must be in place for teachers to translate positive attitudes into effective teaching practices. Impact analysis of the OPEQ evaluation will help determine whether the OPEQ revised curricula and in-service teacher training and coaching system have a positive effect on teacher performance.