Title: School Dropout Prevention Pilot – First Follow-Up Impacts

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

Over the past two decades, considerable progress has been made in increasing school enrollment. From 2000 to 2011, the number of children out of school worldwide has decreased from 102 million to 57 million—a reduction of almost 50 percent (Millennium Development Goals Report, 2013). This effort has been supported by extensive research evaluating interventions aimed at increasing access to schooling in developing countries (Petrosino et al., 2012). However, many children do not complete primary or secondary cycles once they enroll; out of the 137 million children who entered first grade in 2011, 34 million are likely to leave school before reaching the last grade in primary school (Millennium Development Goals Report, 2013). Unfortunately, the research base into interventions targeting student dropout in developing countries is still underdeveloped, particularly given the wide range of educational and cultural contexts in which interventions are implemented. The School Dropout Prevention Pilot (SDPP), a five-year, multi-country program, funded by the U.S. Agency for International Development, is designed to help fill this research gap by piloting and evaluating interventions aimed at decreasing student dropout rates in primary and secondary schools in Cambodia, India, Tajikistan, and Timor-Leste. [1] In the first months of the project, SDPP conducted a review of the existing U.S. and international evidence on interventions designed to decrease student dropout by using a framework inspired by the What Works Clearinghouse model (Brush et al., 2011). We found that only conditional cash transfer interventions showed consistently positive impacts, while other evidence was mixed.

Armed with the findings on what works and in what context from the literature review and from situational analyses of the factors and conditions associated with dropout in each country, in late 2011 and early 2012, SDPP carried out program design consultation workshops with stakeholders in each country—including nongovernmental organizations, parent organizations, regional education authorities, and national representatives of ministries of education—to solicit ideas and determine the school dropout interventions with the best chance of success (Alvarez et al., 2011; Bagby et al., 2011; Buek et al., 2011). In each country an Early Warning System was selected along with an additional country-specific intervention component. An Early Warning System uses student attendance and course performance data, along with teacher observations on other local factors associated with school-leaving, to identify students at highest risk of dropping out of school. Teachers, school administrative staff, and/or community groups then monitor these students' progress using a case management approach, lending additional support and outreach when necessary. The intervention is similar to the Check & Connect program and the ALAS program, both in the U.S., which have been found to have positive effects on students' staying in school and potentially positive effects on progression in school in reviews of dropout prevention research conducted by the What Works Clearinghouse of the U.S. Department of Education (American Institutes of Research, 2006a; American Institutes of Research, 2006b). The

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[1] SDPP is implemented by Creative Associates International, Inc., with international partners Mathematica Policy Research (Mathematica) and School-to-School International (STS), and local partners in three of the target countries—KAPE in Cambodia, IDEAL in India, and CARE in Timor-Leste. Creative Associates has a corporate office in Tajikistan, obviating the need for an additional local partner.

implementation of Early Warning Systems in four diverse countries provides us with the opportunity to evaluate this intervention in multiple contexts among multiple populations, strengthening the external validity of subsequent findings. Our evaluations of these interventions represent, to our knowledge, the first experimental evaluations of Early Warning Systems in an international setting. Should these interventions prove effective in reducing student dropout, they would represent an inexpensive and potentially self-sustaining alternative to the potentially more resource intensive interventions such as conditional cash transfers that have proven effective in the past.

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

The SDPP interventions are being rigorously evaluated in Cambodia, India, Tajikistan and Timor-Leste. Each intervention consists of an Early Warning System (EWS), which uses student data to identify and provide additional support students who are most likely to drop out of school, and additional country-specific school activities. The interventions were rolled out in 2012, targeting students at various grade levels, depending on each country's context. We address five research questions in our impact evaluations: (1) Do the interventions improve the dropout rate?, (2) Do the interventions improve student engagement in school?, (3) Do the interventions improve student behavioral and attitudinal outcomes?, (4) Do the interventions improve teacher behavior and attitudes?, and (5) What are the programs' impacts on all of the above dimensions for students identified as being at risk of dropping out of school?

In this presentation, we present impacts from the first follow-up data collection, which represents less than a complete school year of exposure to the interventions. We will conduct two rounds of additional data collection in the remaining two years of the program.

Setting:
Description of the research location.

Cambodia, India, Tajikistan, and Timor-Leste differ greatly in geographic region, size, economy, and additional factors. However, they all fare poorly along various development metrics (see Appendix Table 1). Additionally, in each country school dropout remains a prevalent issue. Previous analyses by SDPP found dropout rates for Cambodia, India, Tajikistan, and Timor-Leste of 22%, 33.5%, 19%, and 7.5%, respectively, in the grades targeted for intervention activities (Shrestha et al, 2011a; Shin et al, 2011a; Shrestha et al, 2011b; Shin et al, 2011b).

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

As shown in Appendix Table 2, the grades targeted for intervention activities and sample sizes differ across countries. The study sample consists of some 110, 000 students in 322 schools across grades 7, 8, and 9 in Cambodia; 13,000 students in 220 schools in grade 5 in India; 8,000 students in 165 schools in grade 9 in Tajikistan; and 29,000 students in 191 schools across grades 4, 5, and 6 in Timor-Leste. Each country's gender distribution is similar, with females

composing slightly less than half of study students, except in India where they make up slightly more than half. Additional cohorts of students will be added in SDPP's remaining two years.

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

SDPP implemented an Early Warning System (EWS) in each country as well as additional country-specific intervention activities. The EWS uses data from student records and teacher observations (including student attendance, performance, and behavior) to identify and monitor students at risk of dropping out of school, training educators to intervene and interact positively with at-risk students and their families (Creative, 2012b). School directors, homeroom teachers, PTA members, and community members develop relationships with parents of at-risk students through phone calls, conferences, and home visits to keep parents abreast of their children's progress and to teach parents how they can better monitor their children's attendance. Schools and communities then carry out "first response" activities that include classroom practices, case management, community and parental awareness building and involvement.

In addition to the EWS, SDPP implemented activities intended to encourage school engagement among students designated as at risk of dropping out of school. These activities were tailored to the interests and needs of target-grade students in each country. In India, the second component consists of recreational and enrichment activities such as sports, games, and creative arts (Shrestha & Tietjen, June 2012a). In Tajikistan, the second intervention component consists of two-hour after-school sessions for students identified as at risk through the EWS. In the first hour, students receive tutoring in subjects in which they require additional assistance, while in the second hour, they participate in enrichment activities, such as playing board games, designed to be fun and mentally engaging (Shrestha & Tietjen, June 2012b). In Timor-Leste, the second intervention component consists of after-school recreational activities held for two hours each week (Prouty & Tietjen, 2012).

Cambodia is unique among SDPP countries in that two groups of schools received different interventions instead of a single group of treatment schools. One group of treatment schools received the EWS, while the second treatment group received computer labs and the provision of computer literacy training in addition to the EWS (Prouty et al., 2012).

Research Design:
Description of the research design.

We are using similar stratified school-level random assignment designs to evaluate each country's intervention activities. The schools receiving the interventions in each country were randomly assigned from a list of eligible schools. In India, Tajikistan, and Timor-Leste students in schools that were randomly assigned to receive the interventions compose the treatment group, while students in study schools assigned not receive the interventions compose the control group. The design in Cambodia is identical except that there are two treatment groups and one control group, rather than simply one treatment and one control group.

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

We have thus far collected one round of pre-intervention data and one round of follow-up data. We plan to collect two additional follow-up rounds of data in each country in the study's remaining two years. We have collected rich student, teacher, and school level data through four survey modes: school questionnaire, student records extraction instrument, student questionnaire, and teacher questionnaire. Pre-intervention data collection took place in two phases in Cambodia and Tajikistan in order to sample at-risk students for whom to administer student questionnaires by mimicking, as best as possible, the EWS method of at-risk student identification using student data collected in the first phase. Pre-intervention data collection took place in May and June of 2012 and winter of 2012–2013 in Cambodia; July and August of 2012 in India; May and November of 2012 in Tajikistan; and May and June of 2012 in Timor-Leste. The first follow-up data collection took place in May and June of 2013 for all study countries.

Consistent with the research questions identified earlier, the data collected will provide outcomes in five domains: (1) school dropout, (2) school engagement, (3) progression in school, (4) student behaviors and attitudes, and (5) teacher outcomes. Outcomes from the first domain include between-grade and within-grade dropout; outcomes from the second domain include attendance and course performance; and the outcome in the third domain is progression from one grade to the next. Outcomes from these domains will be computed using data from student administrative records. Outcomes in the fourth and fifth domains will be drawn from student and teacher questionnaires.

To estimate impacts on these outcomes, we use a multivariate statistical model. These models (1) properly account for the mismatch between the level of random assignment (school) and the level of analysis (student), ensuring the proper estimation of standard errors; and (2) to control for any differences in baseline characteristics, thereby improving the precision of impact estimates.

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

We have collected the first follow-up data in all four countries and are currently cleaning and analyzing it. Findings will be available in early 2014.

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

Early Warning Systems are potentially promising dropout prevention strategies given their low cost, potential sustainability, and proven success in the United States. Findings from this analysis will provide the first experimental evidence of the effectiveness of EWS dropout prevention interventions internationally. This evidence will cover a comprehensive set of outcome domains for a very large sample of students in a diverse set of countries.

Appendices

Not included in page count.

Appendix A. References

References are to be in APA version 6 format.

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Appendix B. Tables and Figures

Not included in page count.

Table 1. Country Demographics

	Cambodia	**India**	**Tajikistan**	**Timor-Leste**
Population	15.2 million	1.2 billion	7.9 million	1.2 million
GDP per Capita (PPP, 2012 US$)	$2,400	$3,900	$2,300	$10,000
HDI (Out of 187)	138	136	125	134
Net Secondary Enrollment Rate	37.6%$_{2008}$	—	86.0%$_{2011}$	38.7%$_{2011}$
Mean Years of Schooling	5.8	4.4	9.8	2.8

Sources: CIA World Factbook, UNDP, UNESCO.

Table 2. Study Populations

	Cambodia	**India**	**Tajikistan**	**Timor-Leste**
Administrative Blocks	6 Provinces	13 Educational Blocks	5 Districts	5 Districts
Target Grades	7, 8, 9	5	9	4, 5, 6
Dropout Rate	22%	33.5%	19%	7.5%
Number of Schools	322	220	165	191
Number of Students	110,074	12,812	7,669	29,058
Female	48%	51%	46%	49%

Sources: School Dropout Prevention Pilot materials and data collection efforts.
Note: Tajikistan dropout rate is a within-grade measure.