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School quality and its association with agency and academic achievements in girls and boys in secondary schools: Evidence from Bihar, India

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ABSTRACT

Drawing on data collected from a school-based study in India, this paper adds to the scant literature on the relationship between school quality and agency and attitudes of girls and boys in secondary schools; it also explores the better-researched association between school quality and academic competencies. The study was conducted among girls and boys in Class 10 in 30 government-run secondary schools in the state of Bihar. Findings show that classroom dynamics, particularly non-discriminatory treatment by teachers and their expression of gender egalitarian attitudes positively influenced gender role attitudes and awareness of health matters among girls and boys. It also influenced their academic performance.

1. Introduction

The Millennium Development Goals Report 2012 indicates that net enrolment rates in primary schools and primary school completion rates in developing countries stood at 90% in 2010 (United Nations, 2012). With developing countries most likely to achieve the MDG 2 of universal primary education, attention has increasingly been drawn towards the need for investing in enabling their adolescents to transition to and successfully complete secondary education. Investing in secondary schooling for adolescents has been advocated not only for its productivity-enhancing effect in the labour market but also for other benefits, including the acquisition of a sense of agency, social capital and complementary values and motivations that support successful transitions to adulthood (National Research Council (NRC) and Institute of Medicine, 2005).

Evidence from developing countries, however, remains limited about the effects of schooling on adolescents' agency and values and attitudes. The NRC and Institute of Medicine synthesis of what is known about the transition to adulthood highlights, for example, that such questions as the relationship between formal schooling and self-efficacy and agency, especially for young women, and the potential of formal schooling as a site for attitudinal change remain unanswered (NRC and Institute of Medicine, 2005). The limited evidence, moreover, presents a mixed picture. For example, a cross-sectional study of unmarried young women and men aged 15–24 in India reports that secondary school education was positively correlated with such dimensions of agency as mobility, decision-making and self-worth for young women; but the associations were neither as consistent nor as strong among young men (Jejeebhoy et al., 2010). Likewise, a study of 1242 adolescents aged 12–19 years in Kenya found that educational attainment was significantly associated with expression of egalitarian gender role attitudes (Obare et al., 2006). In contrast, a cross-sectional study of unmarried adolescent girls and boys aged 16–19 in Egypt observes that increased schooling does not appear to lead to adolescents' adoption of gender egalitarian norms (Mensch et al., 2003). It has been argued at the same time that the quality of schooling that adolescents receive is as important as the quantity of schooling that they receive to acquire skills necessary for successful transitions to adulthood (NRC and Institute of Medicine, 2005). Yet, the effects of school quality on outcomes other than academic performance remain under-researched.

Drawing on data collected from a school-based study in India, this paper adds to the scant literature on the association between school quality and agency and attitudes of adolescent girls and boys; it also explores the better-researched association between school quality and academic competencies.

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2. School quality and student outcomes: literature review

2.1. School quality

Many definitions of school quality exist in the literature. The school-effectiveness studies related to the development of cognitive competencies identified time to learn, material inputs and effective teaching as the basic elements of school quality (see for example, Appleton, 1995; Glewwe and Jacoby, 1994; Harbison and Hanushek, 1992; Lockheed and Verspoor, 1991). Others have used a broadened framework to define school quality. Acknowledging education as a complex system embedded in political, cultural and economic contexts, UNICEF defined school quality to comprise quality learners and elements, including health, early childhood experiences and home support that go into making quality learners; quality learning environments consisting of physical, psychosocial and service delivery elements; quality content – intended and taught curriculum; quality educational processes; and quality outcomes encompassing knowledge, skills and attitudes (UNICEF, 2000). Likewise, in exploring the association between school quality and retention, Lloyd and co-authors defined school quality in terms of time to learn; material inputs, including facilities, instructional materials, teaching staff, curriculum beyond core, other staff and community support; and school and classroom dynamics, including general school environment, classroom dynamics, teachers' attitudes, school policies and practices with gender implications and interaction outside the classroom (Lloyd et al., 2000). Bringing a social justice orientation into the discourse around defining school quality, Tikly and Barrett (2013) defined school quality in terms of the opportunities to develop a broad set of capabilities, including basic literacy and numeracy, access to knowledge, critical thinking, problem solving, emotional literacy and autonomy (Walker, 2006), that is afforded to different individuals and groups through the processes of teaching and learning. Tikly and Barrett identified three principles – inclusion, that is, all learners achieve specified learning outcomes; relevance, that is, learning outcomes which contribute to sustainable livelihoods and well-being for all learners; and participation, that is, processes for setting and monitoring learning outcomes – as the basic elements of school quality.

2.2. Student outcomes

Studies in developing countries, including India, have typically focussed on cognitive competencies of students, as measured by literacy and numeracy, standardised test scores and so on (Atanda and Jaiyeoba, 2011; Azim Premji Foundation, 2007; Glewwe and Jacoby, 1994; Govinda and Varghese, 1993; Grover and Singh, 2002; Hewett et al., 2009; Jaiyeoba and Atanda, 2011; Kingdon, 1996; Kremer et al., 1997; Varghese, 1994). Less studied student outcomes are those related to adolescents' agency and gender role attitudes (Chisamya et al., 2012; Doggett, 2005; Murphy-Graham, 2009; Shah, 2011). Even less studied are health-related outcomes, including awareness and practices related to sexual and reproductive matters (Mensch et al., 2001).

2.2.1. School quality and cognitive competencies

Several studies in developing countries have shown that such components of school quality as material resources, teacher knowledge and pedagogical practices are closely associated with learning skills and school performance, although some studies have observed inconsistent or no associations.

Specifically, material resources, as measured by class size or the teacher–student ratio, have consistently been observed to be inversely associated with grade retention and average test scores (NRC and Institute of Medicine, 2005). Evidence remains mixed with regard to the extent to which material resources as measured by infrastructure and availability of textbooks are associated with learning skills and school performance. For example, poor infrastructure, in terms of unusable or leaky classrooms, was found to be a significant predictor of poor performance in Ghana (Glewwe and Jacoby, 1994). A study in 507 schools in Nigeria found that students' achievement in Mathematics (but not English language) was associated with school infrastructure, including the availability of toilets and instructional materials in the school (Atanda and Jaiyeoba, 2011; Jaiyeoba and Atanda, 2011). A longitudinal study in rural Malawi found a mixed association between school infrastructure and resources (student teacher ratio, classrooms, blackboards, working water source, clean toilet facilities, sports equipment and fields, books, etc.) and educational outcomes (Hewett et al., 2009). Likewise, a study in Kenya found that school performance, in terms of test scores, was unaffected by the provision of textbooks and uniforms (Kremer et al., 1997). Two studies in India, one that compared students in 40 well performing rural government schools with 40 poorly performing schools in northern Karnataka, and a second that focused on Class 4 students and their teachers in Kerala, were also unable to establish an association between school infrastructure and performance (Azim Premji Foundation, 2007; Varghese, 1994). A few others report that physical infrastructure is necessary, although not sufficient, to improve academic performance (Govinda and Varghese, 1993; Grover and Singh, 2002; Kingdon, 1996).

In contrast, several studies have noted close associations between teacher–student classroom dynamics and students' test scores. A study in Jamaica notes, for example, that material resources were less important than the pedagogical processes, especially intensity of textbook use and decreasing the amount of time spent on written assignments in class (Glewwe et al., 1995) in explaining variations in achievement. Two studies in Kenya have observed that gender treatment was a significant factor influencing outcomes, especially for girls (Appleton, 1995; Lloyd et al., 2000). Studies in India also found that the presence of a committed head teacher, active involvement of teachers, active involvement of parents and good school practices (cleanliness, neatness and orderliness) were strongly associated with students' performance (Azim Premji Foundation, 2007; Govinda and Varghese, 1993; Grover and Singh, 2002; Kingdon, 1996).

2.2.2. School quality and adolescents' agency

The few studies that we came across have focused, using qualitative approaches for the most part, on the effects of school and classroom dynamics on raising gender consciousness of students. For example, a study that evaluated the Sistema de Aprendizaje Tutorial (Tutorial Learning System or SAT) programme, a coeducational lower and upper secondary education programme, in Honduras reports that a school curriculum that links gender with the larger concept of justice, engages students and teachers in critical reflection and dialogue, and that emphasises the need for change among both individuals and the social structure can give students the opportunity to engage in critical reflection and discourse about gender, which in turn can contribute to increased gender consciousness and heighten their desire for change towards gender equality (Murphy-Graham, 2009). Likewise, a study of the Loreto Day School in India reports that a school culture that promotes a 'curriculum of agency,' which attempts to build confidence and a sense of capacity within students through participation in co-curricular programmes and other enabling activities as well as an academic curriculum which supports the academic development of all students and prepares them for examinations has been able to provide girls with a range of opportunities to exercise leadership and initiative, question the social position of women and girls, and develop practical strategies