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The Gender Socialization Process in Schools: A Cross-National Comparison

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Abstract

This monograph reviews key findings in the international research literature from 1995 to the present on five dimensions of the gender socialization process in schools: (1) Teacher-based dynamics such as teacher attitudes and expectations and their interactions with students in the classroom evince different patterns toward boys and girls, generally to the disadvantage of girls. (2) Within the formal curriculum, sex education continues to miss important aspects of sexuality affecting adolescent students, despite changes in social mores. (3) The school environment contains aspects of gendered violence that are slowly being recognized as contributing to polarized conceptions of femininity and masculinity. Single-sex education is found to play a positive role if designed with explicit gender transformational objectives. (4) Peer influences play a significant but not easily visible gate-keeping role in reproducing gender ideologies. (5) Teachers—key actors in the everyday life of schools—do not have access to training in gender issues and, consequently, tend not to foster gender equity in their classrooms.

While the studies were conducted in different countries, with varying levels of economic development and modernization, the findings do not show major differences across world regions. Implications from the research findings suggest a much more proactive engagement by educational decision-makers if gender practices in schools are to be substantially modified.

Contents

	Page
Introduction	3
General Educational Context	4
Conceptual Advances	5
Teacher-Based Dynamics	6
Teacher Attitudes	7
Teacher Expectations	9
Teacher-Student Interactions	10
The Formal Curriculum	12
Academic Achievement	14
Sex Education	17
The School Environment	18
Single-Sex Schools	21
Pregnancy Regulations	23
Peer Influences	23
Teacher Training and Development	25
Implications of the Research Findings	27
Regional Trends	28
References	29

Introduction

In the past four decades, women have made substantial, and most likely irreversible, gains in education. Progress toward numerical equality (parity) in access to schooling has been made at all levels of education and in most countries. Moreover, there is a clear gender convergence in academic achievement. The paradox remains that, while the education gender gap shows a steady diminution, there are still substantial differences in the political and economic power of men and women. Important occupations and fields of study remain segregated by gender and salary differentials between men and women are common in both developing and industrialized countries.

Over the past decade, an analytical shift from questions of educational access and retention has intensified in the direction of a focus on the school life and how this quotidian experience—highly relational in nature—shapes students' expectations, aspirations, and definitions of self as individuals and as citizens. This review of the literature examines research on gender socialization processes that take place in schools. It probes five dimensions of these processes: teacher-based dynamics, the formal curriculum, the school environment, peer dynamics, and teacher training and development as public policies that attempt to alter the role education plays in the emergence of gendered identities. This review examines the professional literature produced since 1995 and treats countries as the unit of analysis. It considers books and articles in refereed journals printed in English, Spanish, and Portuguese. The available research shows very uneven coverage. While not abundant, there are several studies available for the English-speaking countries of the world, primarily the U.K., U.S., Australia, and Canada. There are a few studies drawn from Latin American and East Asian settings. Very little is known about certain parts of the developing world, especially the Middle East, South Asia, and Francophone Africa.¹ No explicit comparative studies could be found; consequently, the comparisons made in this paper attempt to bring together research from various countries carried out with similar intent but not identical research questions or methodologies.

The scant research reflects the low priority given to gender and education by governments, international organizations, and foundations. Except for minor initiatives in Latin America in the area of public policy and piecemeal funding for specific researchers, there are no cross-national research projects on the subject. Most of the

¹ Specifically, this study looks into the international research literature on education and gender socialization published during 1995-2007, focusing on books and refereed journals as a means to ensure the substantive and methodological quality of the findings. Seven educational journals (*Comparative Education Review*, *Compare*, *Comparative Education*, *International Review of Education*, *Gender and Education*, *Teachers College Record*, and *The British Educational Research Journal*) were exhaustively examined. Articles in other professional journals were located through JSTOR searches using both keywords for the education socialization experience and country names. In addition, this study examines articles in the *Revista Iberoamericana de Educación*, *Cadernos de Pesquisa*, and *La Educación*, available through the Internet. Although there exists a growing and potentially useful literature represented in master's theses in developing countries, access to them would have required an effort beyond the scope of this study.

research is done by academics, and thus is localized and has a narrow scope. The U.K., with its rich tradition of cultural studies and researchers trained to observe classroom and school dynamics, has produced the largest number of these studies. A state-of-the-art review of gender studies in Brazil (Rosemberg et al., 1990) reported research centered on gender differences in tests, participation in adult literacy, field-of-study choice, and sexual stereotypes in textbooks. No similar reviews have been produced since then in any other developing country.

Studies that focus on social dynamics call for both classroom observations and interviews with school agents regarding their daily practices. Analytical approaches most commonly used have been qualitative in nature, although in a few cases, quantitative surveys based on large sample sizes and deploying multivariate statistical analysis have also been employed.

General Educational Context

The attention to gender in society has passed through several phases. Initially, concern with differences between men and women and the extent to which these might be based on biological attributes. Then attention centered on the socialization processes women and men experienced differentially in various societies. More recently, studies recognize gender as an organizing principle in all social institutions, from educational institutions and the workplace to legal systems.

A similar trajectory can be detected in education. In the 1980s there were substantial efforts to eliminate sexual stereotypes in textbooks and to promote coeducation. That decade saw a focus on sexual discrimination in schools and the gendered nature of schools, and a focus on girls' (as opposed to boys') education (Francis & Skelton, 2001). In the 1990s two major concerns emerged: the first relates to women's access to education in developing countries; second is the unfavorable position of women in scientific and technological fields and the examination of gendered practices in school settings in industrialized countries (Younger et al., 1999). Recently, the industrialized countries have also become preoccupied with the academic underperformance of male students (Francis, 2000; Jackson, 2002).

Attention to gender, however, has been constrained by a reduced public involvement in education, a result of widespread changes in the definition and responsibilities of the state brought about by economic policies that have emphasized international competition and the privatization of social services (Connell, 2002; Stromquist, 2005; among others). Education reforms have been numerous, yet few have directly involved gender, coming closest their consideration of multicultural education and anti-racist education. In the U.S., reform efforts have concentrated on school effectiveness (defined as academic performance), site-based management, teacher content knowledge and pedagogy, leadership capacity, and parental choice of schools. OECD countries have followed a similar, though not identical, pattern. In less industrialized countries, the reforms have been primarily administrative in nature and emphasized decentralization, parental participation, and school effectiveness.

The still wide agenda in social change efforts suggests that schools have yet to become major engines of gender transformation. This preoccupation had led to research focused on the micro social processes that take place daily in classrooms and schools, dynamics commonly understood to be in the realm of socialization. At the same time, the traditional notion of sex-role socialization has been found to be of limited utility. Sex role socialization emphasizes childhood processes and makes the messages received to appear less contested; further, it is an approach that emphasizes micro-level factors and does not recognize the complex relationship among micro, meso and macro variables. A preferred definition of gender socialization today is that it refers to “ongoing, multi level processes of social expectations, control, and struggle that sustain and subvert gender systems” (Ferree & Hall, 1996, p. 935). In this conceptualization, gender is not a characteristic of individuals but of societies (Connell, 1993; Connell, 1996; Ferree & Hall, 1996). Multiple institutions impact on gender formation: the school, the family, the workplace, peers, the mass media, and the new communication technologies are salient in the contemporary era. Institutions simultaneously shape and are shaped by individual agency (Bourdieu, 1977; Giddens, 1979); thus, the process is both dynamic and subject to change. Formal schooling is a major agent in teaching and reinforcing cultural expectations for males and females (Finn et al. 1980; Lee et al., 1994), yet it is also seen as a site with considerable degrees of autonomy to produce new and progressive identities (Apple & Weiss, 1986).

Conceptual Advances

Looking at schools and classrooms as key sites for the formation of beliefs about femininity and masculinity has necessitated close attention to everyday practices: teacher talk, peer culture, curriculum content, and school messages. Such attention has shifted from a strong focus on the individual to examining the role of social contexts in the process of identity formation. It has further necessitated observation and analysis of subtler social phenomena, often involving biased and unconscious practices (Francis & Skelton, 2001; Connell, 2002). School research on gender today explicitly addresses issues such as the construction of masculinities and femininities, forms of violence such as bullying and homophobia, and the active role of peers in the formation of school cultures.

The understanding of various forms of masculinity (from dominant to marginalized) has deepened our knowledge of how the construction of masculinities involves the creation and use of power relations (authority, control over resources, violence), a division of labor (concentration of gender by courses and tasks that boys and girls perform), and symbolization (gendering of knowledge in which certain fields are seen as masculine and others as feminine) (Connell, 1996). Key arenas where masculinities are created in the school have also been identified: boys’ subjects, discipline, sports, and peer culture (Connell, 1996).

Through post-structuralism, there has been a growing recognition of the centrality of language in the development of subjectivity. Discourse contains normative views

about how people should be and shapes their actions. The process of identity formation in schools emerges from the interplay of expectations (roles that students are supposed to play in the future), attitudes (feelings toward them), and behaviors (practices in the classroom). A definition of gender identity establishes it as: "A person's own feeling about their gender—whether they are male, female, both or neither" (Paechter, 2001, p. 47). In the construction of gender identities, there is recognition of the interplay of several other factors, primarily race and social class; thus, certain students are positioned in schools in ways that can produce cumulative disadvantage.

At a more macro level, gender theories today see gender as encompassing both material and ideological dimensions. Fraser (1997) makes a distinction between redistribution and recognition, affirming that both are needed to attain social justice. The former involves equality of opportunity or the allocation of critical material resources; the latter implies an acceptance and respect of the differences among individuals.

Socialization is a central concept social theorists use to explain both cultural maintenance and cultural change. Socialization links the individual to collective life by molding members into compliance and cooperation with social requirements. At the same time, the process is not predetermined, because individuals may question and reject certain cultural features. In other words, the process is fluid and contingent on multiple factors; thus, some scholars consider that the term "identity formation" captures more the dynamic nature of the socialization process. Socialization clearly occurs in multiple institutions and settings, some of which, as the mass media and peer networks, are acquiring unprecedented levels of influence. Socialization in the schools, which touches substantially on the informal (hidden) curriculum is a critical dimension of schooling through which educational settings may introduce changes in social perceptions or, conversely, continue to reproduce traditional values and attitudes. This socialization covers a wide array of practices, ranging from administrators' and teachers' attitudes and expectations, textbook messages, peer interactions, and classroom dynamics, to the greater environment.

Teacher-Based Dynamics

The majority of time at school is spent with teachers, so they are influential role models. In many rural schools in developing countries, there are no books (for Kenya, see Mungai, 2002; for Central America, see Martina, 1993), in which case the role of the teacher becomes extremely important. Teachers send multiple gendered messages through the curriculum and organizational decisions. How do teachers value the work of girls and boys? What differential attitudes and expectations do they hold toward them? How are students treated in the classroom? How do students react to the prevailing messages and practices?

Teacher Attitudes

Many teachers express the viewpoint that they treat boys and girls equally and that their gender is irrelevant. This position is called gender-blindness; it provides a false

sense of objectivity and impartiality, often at variance with actual practice. Teacher attitudes may reflect biases toward girls and boys. Biases are subtler than visible discrimination and may result in unconscious behaviors that give more careful attention either to girls or boys. These behaviors may foster among the less favored students a sense of alienation and hinder personal, academic, and professional development (Davis, 1993). Sexist attitudes introduce inequalities and hierarchies in the treatment individuals receive based on sex differences (Subirats, 1994).

In many classrooms, teachers no longer use the masculine language to refer to boys and girls and in several instances teachers are trying to develop a non-sexist school environment (Streitmatter, 1994). In a large number of countries, however, sexist linguistic teacher practices still remain (see Meana, 2003, for a discussion of the African region). A frequent and widespread finding is that boys enjoy more challenging interaction with teachers, dominate classroom activities, and receive more attention than girls through criticism, praise, constructive feedback and help. In the U.S. context, such favoritism was found in the 1980s and 1990s (AAUW, 1992) and continues to be observed (Klein et al., 2007).

Few gender-focused classroom socialization studies based on large samples exist. One noteworthy effort was an investigation based on 86 classrooms in several curriculum areas in 21 Nigerian primary schools (Lee et al., 1994). The study compared teacher practices in coeducational schools with those in single-sex schools (both boys-only and girls-only schools). Teacher practices were analyzed in terms of both *sexist* practices (gender reinforcement, sex-role stereotyping, active discrimination, and explicitly sexual incidents) and *equity* practices (resistance to sex-role stereotyping, compensatory recognition of female achievement, and affirmation of girl's abilities, skills and performance). Incidents of sexism were observed in 45 percent of the 86 classrooms and in half there were instances of equity practices. Most incidents of sexism were initiated by teachers, with sex reinforcement being the most common practice followed by active discriminating (linguistic usage, interpretation of literary texts, and visual displays) in both coeducational and single-sex schools. In coeducational schools a particular type of sexism—gender domination or practices in which prerogatives were accorded to male students or exercised by male students over female students—was observed. Sexist incidents varied by subject matter: they prevailed in chemistry in coeducational schools and girls-only schools and in English in boys-only schools. Equity incidents were more likely to occur in girls' schools and rarely in boy's schools. Also, some equity incidents occurred in classrooms in which teacher-initiated sexism was observed, so in those classrooms teachers were found to convey mixed messages (Lee et al., 1994).

Australian data of primary school teachers have documented that teachers monitor masculinity and promote hyper-masculinity, showing control through the use of sports and of humor toward students perceived to display “weak” masculinities (Martino & Frank, 2006). Another Australian investigation used a multi-site study of four high schools and two secondary colleges (grades 11-12), interviewing teachers and students and observing some classes (Robinson, 1992). Teachers in this study perceived girls as submissive, passive, and “controllable” and firmly repressed instances of anti-feminine

behavior. “Bad girls” were those who do not confirm to teachers’ standards of appropriate female behavior. Classroom discipline was a salient practice that reflected teacher attitudes and through which double standards and traditional values about masculinity and femininities were reinforced (Robinson, 1992). A third study, also in Australia, of eight teachers in two secondary schools found that they tended to employ binary constructions of girls and boys, with girls being more “open” to new ideas, while boys “closed off,” girls “in control” vs. “boys out of control,” and girls as “mature” vs. boys as “immature.” These images were found to affect teachers’ classroom interactions with each group (Allard, 2004). It would seem that in this particular case, teacher constructions favored girls.

A U.S. study based on interviews and classroom observations of three primary-school teachers (Garrahy, 2001) provides important insights regarding teacher perceptions. The teachers believed they did not take into account the students’ gender when teaching and reported they saw their students as children, not as boys or girls. In actual practice, however, some behaviors (the provision of examples in class, practices at events, use of educational resources in the classroom) favored boys while other behaviors (reading sessions) favored girls. Teachers gave projects that forced children to remain within gender expectations. Reflecting the “boys will be boys” notion, boys were permitted to speak out of turn but girls were not.

A study of teacher expectations and practices carried out in Guinea (a country with one of the lowest rates of girls’ enrollment in the world) was based on 17 primary and secondary schools located in five regions of the country (Anderson-Levitt et al., 1998). Data were collected through three-month observations of math and French classes and interviews with teachers and students. Lower expectations for girls than boys were widespread among urban middle-school teachers and rural teachers at all levels. Inside the classroom teachers displayed diverse behaviors ranging from excessively biased to not biased at all. But there were also cases of overt discrimination and even hostility against girls from teachers. Most teachers called on those who volunteered and those who volunteered were typically boys. In small groups, girls tended to defer to the male students, particularly to the stronger male students (Anderson-Levitt et al., 1998). Teachers were found to express familiar stereotypes about women and men and to believe boys typically learned lessons well, gave good responses, and manifested ambition, while girls were seen as timid and not as hard-working as boys.

A qualitative investigation of three primary schools in Peru, serving low and middle-class students, examined teacher and student perceptions about gender in the last two years of primary school (Espinosa, 2006). The majority of teachers declared their intention to work on gender equality and sexuality issues in the classroom; actual practice showed very superficial treatment of these issues in the classroom, as these topics were dictated and not subject to reflection or debate. Sexuality was treated from a descriptive and “hygiene” perspective. Analysis of notebooks (belonging to the best students in their class for two disciplines where gender issues were covered in the curriculum) found that female characters were associated with love, good behavior, caring, and sacrifice traits, while masculine characters (which were presented in greater frequency) were discussed

in the context of good behavior (doing class assignments, being courteous), bad behavior (being mischievous, possessive, lying), strength, intelligence, and love. Characters from history, the sciences, arts and religion discussed in class also showed a much more frequent occurrence and more extensive treatment of males; the family was presented in its ideal form: having the presence of both parents, heterosexual, with children, and the father as head.

One of the few studies focusing on technical education was conducted in a coeducational high school in Peru and focused on the attitudes and practices of occupational training teachers (Valdivia, 2006). The teachers described themselves as favoring gender equality and as avoiding gender distinctions in their occupational advice. Although students rotated across all occupations during the first two years of their high school education, the teachers behaved in highly stereotypical ways in their advice to and placement of students in their final occupational fields. The teachers thought that girls could not handle heavy jobs (those in carpentry, electricity, metalwork) and that they should develop skills they would need as housewives and mothers (garment construction and textile trades). The occupational teachers did consider the job opportunities for each occupation, yet they did not question any social stereotypes about conventional fields for men and women.

Teachers attempting to avoid sex discrimination in their classrooms have been found to behave according to two distinct frameworks: the *equality* framework leads them to treat boys and girls alike; the *equity* framework leads them to consider a conscious and differential treatment of girls and boys in order to achieve equal outcomes. The equity framework reasons that, if a particular group has been less advantaged in the past, it may need more attention; for instance, a teacher may stress participation of female students in science, may press female students to do more in math, or may encourage male students more to read literature (Streitmatter, 1994).

Teacher Expectations

There is evidence that teacher expectations—firm notions of future outcomes—tend to create inequalities in social interaction, which in turn affect performance. Extensive experimental research conducted by Cohen (1986) in the U.S. demonstrates that expectations lead to differences in opportunities for interaction in school classrooms and thus in children’s opportunity to learn—or time engaged on cognitive tasks.

One of the most often cited finding of both elementary and high school studies is that teachers continue to see girls as individuals who will succeed through quiet diligence and hard work and boys as more “naturally clever” (Skelton, 2006). The Anderson-Levitt et al. (1998) study of Guinean schools found that teachers expected girls would handle the daily cleaning of the school property, especially sweeping classroom; boys also engaged in manual work but not every day. Teachers also seem to have an expectation that romantic ties could be established between them and their female students; thus, they would tease colleagues for not finding a girlfriend among the student body. Teacher expectations impacted the students: in general, neither first-grade girls

nor first-grade boys held stereotypes about what boys and girls are like or can do in school. By fifth or sixth grade, both boys and girls perceived strong differences between the sexes. Among the older children, both boys and girls believed that boys were more likely to learn lessons well, raise their hands often, answer teacher questions well, understand math, show ambition, like competition and be smart. Rural students in Kenya, Malawi, and Rwanda have also report the low expectations teachers have of female students, which often leads to giving more attention to boys and even ignoring girls in the classroom (Mungai, 2002). The Guinean study cited above, in contrast, found that teachers were willing to call on girls regularly and to encourage them to participate, but mostly star students (Anderson-Levitt et al., 1998).

A study of teachers in two rural primary schools in Senegal, with student outcomes measured nine years apart (1980 and 1989), explored teacher predictions about academic achievement in national examinations at the end of the year and about later life trajectories (Daun, 1995). The teachers' short-term estimates of student failure were accurate in for 69 percent of the boys and 79 percent of the girls. Nine years later, 54 percent of the girls and 24 percent of the boys predicted to fail had not completed primary education. Teacher predictions were found to be the strongest of five explanatory variables, which included the student's previous educational trajectory, age, absenteeism rate, and participation in Koranic schools. Daun wondered whether teacher predictions were more accurate with girls because teachers were more capable of evaluating girls correctly or girls were more sensitive than boys to teachers' expectations and self-fulfilling prophecies. A Brazilian study of teachers' expectations about the academic performance of fourth grade children reflected biases around gender, ethnicity, and household wealth. In this particular study, teacher expectations were higher for girls and lower for black and poor students (de Oliveira Barbosa, 2004, cited in Lewis & Lockheed, 2006).

Teacher-Student Interactions

The opportunity to learn has been consistently found in the IEA international studies to be a significant correlate of science and math achievement (Finn et al. 1980). Self-confidence and self-respect, which comes from recognition and visibility in the classroom, are associated with competent performance. Therefore, teacher-student interactions are considered of great importance, both in quantity and quality.

Studies of how boys monopolize teachers and other students' time and space in the classroom abound. Boys tend to be assertive, aggressive, competitive, and outspoken. As boys command more attention, teachers tend to give more praise, criticism and feedback to boys than girls. This is done indistinctly by male and female teachers. These studies were first conducted in the 1980s (e.g., Fennema & Peterson, 1985; Eccles & Blumenfeld, 1985; Sadker & Sadker, 1986; Delamont, 1990; Sadker, Sadker, & Klein, 1991), but more recent studies have detected the same patterns. Boys in general receive more attention than girls in nations with very different social and political contexts, such as Sweden (Einarsson & Granstrom, 2004), the U.S. (Jones & Dindia, 2004, and Peru (Espinosa, 2006). While girls tend to work together, boys tend to be more disruptive and

to dominate the classroom environment (Warrington et al., 2000; Francis, 2000). A few studies, however, have reported that more girls than boys initiate interactions with teachers (Dart & Clarker, 1988; Croll & Moses, 1985; Merrett & Wheldall, 1992, cited in Beaman et al., 2006).

The less frequent and lower quality of teacher interaction with girls affects the learning opportunity structures—defined as who speaks during an interaction and who is authorized to take a turn (Brenner, 1998). The evidence for opportunity structure favors boys: not all boys talk but those who talk most are boys. The reduced attention to girls affects the equality of opportunity because it renders girls less visible and worthy of attention, which is likely to affect their sense of self-esteem and self-efficacy. Both teachers and students are contributors to a pattern that gives girls fewer opportunities to participate in classroom recitation (Brenner, 1998).

A study of eight British secondary schools found that, although most teachers believe they give equal treatment to girls and boys in the support of their learning, focus group interviews with students and classroom observations of teacher-student interactions showed a balanced treatment is rarely achieved (Younger et al., 1999). Boys dominated certain classroom interactions while girls participated more in teacher-student interactions that supported learning. Boys felt they received more negative attention from teachers; indeed, they were reprimanded more and asked fewer questions to solicit their teachers' help. Girls asked more academic questions, focusing on understanding of subject knowledge, content, and concepts (Younger et al., 1999). A similar research, also conducted in the U.K., involved a three-year study in four comprehensive and four selective secondary schools, involving interviews and observations of student questions and requests for help in the classroom (Warrington et al., 2000). Boys initiated fewer interactions with teachers to request help or ask questions than the girls, and showed greater interest in such areas as sports, friends, and out-of-school activities. Responses of teachers to boys, then, reinforced stereotyped behaviors. The researchers found that boys were likely to withdraw from academic competition rather than be seen to fail. Boys saw themselves as more disruptive and felt their behavior was worse than girls' behaviors. Girls were more likely to talk and giggle; boys were more likely to shout, tell jokes, throw things, and start fighting in class—which resulted in greater amount of teacher attention (Warrington et al., 2000). A meta-analysis based on 11 quantitative studies of classroom interaction in the U.S. corroborates that teachers display negative behaviors (reprimand, criticism, and behavior warnings) more frequently toward boys than girls, behaviors that are particular intense during junior high (Jones & Dindia, 2004).

An ethnographic study of eight effective U.S. teachers was conducted by Streitmatter (1994), who interviewed and observed each teacher's class for about 15-20 hours over a period of five months. The teachers, identified by colleagues and supervisors as successful in integrating gender issues in their classes, were found to follow different strategies in their teaching methods and interaction with students. Although the teachers taught different levels of education (from kindergarten to high school), individual strategies ranged from gender-neutral (recognizing no effect of gender in schools and classroom practices and thus ignoring the role of gender stereotypes) to

non-sexist (attempting to eliminate sex stereotypes) and anti-sexist (proactive in the portrayal of non-traditional activities for men and women as well as in the provision of student experiences that counter established gender beliefs). The teachers also varied in the way they treated students, either attempting to counter stereotypical messages or dealing with their students in a uniformed manner. Streitmatter's study is of considerable significance as it provides evidence that even among teachers who are committed to gender equity, distinct strategies may operate at the classroom level, with some teachers adopting an equal treatment framework and others engaging in the differential treatment implied in the equity framework in order to produce needed changes in the students.

A six-year study of frequency and type of interaction in classrooms in coeducational schools, using videotape and quantitative analysis of teacher/student interactions, was conducted in Irish secondary schools (Drudy & Chatáin, 2002). Teachers interacted more with boys than girls, expressed greater acceptance of boys' contributions and answers, engaged in higher-order questions with them, and offered them greater praise and reinforcement. Patterns of interaction were affected by gender composition of classrooms. Girls tended to participate more when they constituted the majority of students in the class and less when boys were in the majority; teacher practices were unrelated to years of experience.

Some researchers have argued that perhaps gender bias is not the only reason that boys receive more teacher attention and that teachers may not be solely responsible for the additional attention boys receive, noting that the greater interaction with boys may reflect more the students' effects on teachers than the teachers' effects on students. Indeed, the creation of masculinity within schools may necessitate greater assertiveness by boys, which in turn leads to their being more active and thus requiring greater teacher attention. In Peruvian primary schools, while teachers requested about the same level of participation of boys and girls, male students initiated two-thirds of the student participation (Espinosa, 2006). Both teachers and students can be contributors to a pattern that gives girls fewer opportunities to participate in classroom recitation (Brenner, 1998). In some instances, neither girls nor boys are conscious of the greater participation by boys (Patchen, 2006). A Canadian intervention (Coulter, 1998) that trained first-year teachers in gender and feminist issues found that students play a large part in creating the classroom climate. Feminist teachers became the focus of hostility because they urged boys and girls to question social relations they have taken for granted. Teachers' use of "he" and "she" pronouns created student discomfort and teacher behaviors reinforcing the performance of girls were perceived as favoritism.

Most research on gender issues in schools focuses on teacher behaviors and the values transmitted through talk and behavior. Attempting to expand on research about students' perceptions of teacher behaviors, a study observed 53 boys and girls in their first year of secondary school in the U.K. and asked them about their teachers' attitudes toward gender. The students considered their teachers as fair but felt they exercised more discipline toward boys because boys are assumed to be more unruly. Half the students felt teachers treated them in nondiscriminatory ways but boys felt they were "picked on" by teachers more often than girls when engaged in similar improprieties (Younger et al.,

1999). The different patterns of behavior by girls and boys were accepted as part of the natural experience of schools. Israeli research findings also indicate greater levels of discipline among boys than girls, including corporate punishment (Benbenishty & Astor, 2005).

A one-year ethnographic study of four elementary schools in Liberia gained interview and observational data of school interaction for three grades (Brenner, 1998). Boys believed they were smarter and that they received better grades than girls; the girls were more likely to think that girls and boys obtained the same grade. Girls displayed less verbal behavior in fourth grade than at first-grade grade. Different participant structures were observed by grade: in preschool, boys and girls were treated quite equitably and had equal amounts of interaction with teachers; in first grade, students experienced more demands for individual response and, at times, girls appeared unresponsive; and in fourth grade, girls were called upon less often and volunteered less frequently, were reluctant to speak in front of their peers, and preferred to write responses on the board (Brenner, 1998). By fourth grade, 40 percent of the girls had dropped out of school; those who remained came from wealthier families, therefore did relatively better, and even outperformed boys in academic performance. In the Guinean context, girls' confidence declined from first to fifth grade, partly in response to earlier teachers' low expectation that translated into reduced teacher-student interaction (Anderson-Levitt et al., 1998).

Teachers are not accurate informants of how time and attention are allocated in the classroom. What accounts for the limited congruence between teachers' beliefs and classroom practices? (1) very deep and naturalized gender beliefs; (2) strong constraints imposed by administrators, colleagues, and the curriculum that prevent teachers from behaving differently, even they wished to change (Garrahy, 2001). There is a need for greater understanding of the type of teacher attention students receive, especially in studies of secondary schools, which to date have been neglected in favor of an emphasis on primary schools, except in math and science.

The Formal Curriculum

Bernstein (1990) has observed that the study of curriculum enables us to understand what is possible to think about and who can think about it. The nature of curriculum materials used in the schools and their relationship to the world of boys and girls gives us a critical window into the knowledge conveyed by schools. Across the world, the official curriculum tends to cover the same subjects and to give them similar emphasis, a tendency that has been relatively stable since the 1990s. In some developing countries, however, the curriculum is still differentiated for girls and boys, with girls receiving more information on family life and home science, and boys in productive skills and sports (for the case of Uganda, see Mirembe & Davies, 2001). The formal curriculum, in addition to the content of academic programs, includes textbooks. In this review, textbooks are not considered, but one subject quite pertinent to the socialization

of gender in schools—sex education—is.² And, given the fundamental importance of academic achievement as a product of schooling, this subject is also included.

Academic Achievement

Research on gender differences reveals few genetic differences beyond those associated with procreation. The strongest evidence for biological-genetic influences is for differences in aggression and visual-spatial ability, but even so these are deeply embedded in environmental and cultural influences (Goetz and Grant, 1988). Perhaps reflecting contextual conditions, the U.S. Early Childhood Longitudinal Study (initiated in 1998) showed that, while at kindergarten level, girls and boys had similar performance in reading and math, by third grade boys had slightly higher math scores and lower reading scores than girls and as the students advanced through schooling, gender differences increased (Dee, c2006).

Data from large regional and international assessments indicate that the academic performance of girls and boys shows signs of convergence in the three areas most investigated: math, reading, and science (Ma, 2007). Internationally, the gender gap in mathematics has registered a reduction over time; there are small initial differences in favor of boys but by grade 12 substantial asymmetries develop in favor of boys, although most recently differences in favor of girls have appeared in several countries. Gender differences in reading continue to the advantage of girls but they are moderate³ (with only two countries attaining maximum effect sizes of 0.50 and the majority with differences of 0.30 to 0.40 SD). In science, small differences favor boys in grades four and five, but by grade 12 large to moderate differences in favor of boys have been observed across all countries, except South Africa (Ma, 2007). It should be noted that the largest gender gap in science can be considered moderate rather than strong (effect size of 0.60). Yet, in both the U.K. and Australia, girls since the 1990s have been obtaining higher general scores in examinations given at the end of compulsory schooling (the GCSE).

It is pertinent to recognize that this convergence in academic performance is occurring despite limited change in the sexual division of labor at home. A time-use study implemented in six developing countries (India, Kenya, Pakistan, Guatemala, Nicaragua, and South Africa) found that girls work more than boys in overall work time, particularly in rural areas, whether the adolescents are in school or not (Ritchie, 2004). Gender differences in *domestic* work among students ranged from one to two hours per day, a nontrivial difference in a 24-hour measurement, particularly considering the expected and thus inescapable nature of such tasks.⁴

² A cross-national review of the research literature on the impact of textbooks on gender perceptions has been prepared for UNESCO by Rae Blumberg (2007).

³ A criterion widely used to interpret effect sizes between groups is proposed by Cohen (1969), who defines weak effects as those 0.20 or below, moderate effects those around 0.50, and strong effects those 0.80 or higher.

⁴ The same study found that, among girls not in school, domestic chores vary from 5 to 7 hours per day, while for boys they ranged from half an hour to 3 hours per day (p. 9). This substantial differential in household work in developing countries continues to operate as a major deterrent to family decisions to

Why do, internationally, girls have been improving their academic performance and are doing better in reading when classroom interactions continue to be biased against girls? Several explanations are proposed for their better reading performance: Being more circumscribed to the home than boys, girls are traditionally linked with writing and tend to read more than boys, although what they most often read are romantic novels. In writing classes, gender shapes students' choices of writing topics, and the collective approval and disapproval of those writings maintains gender hierarchies (Peterson, 2002). Boys read less than girls and have a narrower experience with fiction; further differences by gender are much smaller than those by social class (Daly et al., 1998). Boys certainly spend more time outdoors and, among adolescents, reading is not seen as very masculine. A study based on two U.S. eighth-grade classrooms focused on personal narratives in language arts classes. While students were given free choice in selecting the themes, peers engaged in gender maintenance practices by which discussions of homosexuality were derided. Through sports stories girls developed characters that were powerful and active but there was little effort by teachers to engage students in a conscious discussion (Peterson, 2002). At a broader level, some researchers argue that gender differences in reading scores are not a measure of boys' disadvantage but an index of the short-term cost of maintaining long-term privilege (Connell, 1996).

Explanations regarding science consider that this field is associated with hegemonic masculinity and physics, which is seen by many as the most masculine of subjects in the West (Francis & Skelton, 2001). Women are underrepresented in the sciences not by lack of interest or ability but by the ideology of domesticity and the social and political conditions of science. Historical accounts indicate that in the early 1900s the sciences were very popular in girls' schools at a time when they were not considered an important element in the classical curriculum; Greek and Latin were important at that time, and women were discouraged from studying them (Jeffe, 1995). In general, it is more acceptable for girls to work hard in school and still be part of the "in crowd." Boys are under more pressure to conform to a "cool" masculine image and more likely to be ridiculed for working assiduously in academic matters (Warrington et al., 2000). Another explanation is based on the increasing presence of women teachers in high school, which is producing affirmative role models for girls as well as reducing the "stereotype threat"—or a person's propensity to conform to the negative stereotype others hold of himself or herself. In this regard, a longitudinal study of eighth-grade students based on the U.S. National Education Longitudinal Study of 1988 found that female teachers in science and math resulted in increased girls' performance and that male reading teachers increased boys' performance in that subject (Dee, c2006).

Specifically addressing the U.K. context, improvements in girls' performance are shown to have begun following the introduction of the national curriculum in the late 1980s, which mandated a more uniform access by students to courses. Observers have also noted that some boys have jobs lined up for them once the GCSE takes place and, since they do not need qualifications for those jobs, they feel it pointless to study hard;

enroll girls in school; further, there are signals that the indirect or opportunity costs of girls is rising with the liberalization of the economy.

further, boys have been found to think less about their future and to be more confident about achieving long-term goals (Jeffe, 1995; Warrington et al., 2000). Notions of masculinity often clash with the academic ethos of schools and increased access by women to the labor market increases career expectations and thus girls' academic achievement (Younger et al., 1999; Francis, 2000). Girls consider now a wider range of occupations than in the past, in part because equal opportunity programs for women and greater availability of female role models as more women participate and succeed in the labor market. Girls are also aware of the gender-discriminatory nature of the workplace and thus of the importance of educational achievement as a lever to reduce disadvantage (Francis, 2000).

The other side of better academic performance by girls is that, although there has been a notable incorporation of women in educational systems at all levels, there is still a weak participation in certain technical fields (mechanical, electrical, metallurgy, and electronics) and field-of-study choices at the university level continue to be clustered by gender. Boys are consistently over-represented in special schools and in special classes in mainstream schools in OECD countries. This may be interpreted as a practice that marginalizes boys; at the same time, it can be seen as an indication that many girls in need of support are overlooked. Some observers have found that, despite higher academic achievement than boys in public examinations, girls continue to evince lower levels of self-esteem (Younger et al., 1999).

Building on the premise that sex differences in ability or achievement are too small to explain the large gender segregation in the selection of field of study, a study focused on of academic choice in upper-secondary schools in Sweden (Jonsson, 1999) found that boys and girls with similar ability profiles differentially valued important characteristics of jobs. Girls preferred to "help others" and "work with people" or to enter careers that better matched their life plans. Their perceived probability of success in those programs, given the skills and attitudes the girls brought to them, was a factor in the choice of academic subjects; in other words, boys and girls reasoned their comparative advantages for the selected fields (Jonsson, 1999). Further illuminating the cultural base of fields-of-study choice is a comparative study of students in China and the U.S. in a mathematics test based on items used by the Scholastic Aptitude Test (SAT, a test widely used in the U.S. for admission to higher education) which found that, while American high school seniors show a moderately large gender gap in the SAT, no differences could be detected among Chinese students. The authors probed four explanatory factors: physiological distinctions, differences in course-taking, socialization about sex roles, and differences in cognitive processing. The strongest predictor of gender convergence was found to be the similarity coursework taken by both female and male Chinese students (Byrnes et al. 1997).

Sex Education

Schools and schooling have been identified as significant cultural sites in which sexualities are put in place or contested (Connell, 1993 and 1996; Thorne, 1993; Redman, 1996). A critical curriculum area from a gender perspective is sex education. And, yet,

schools do little to help teens make sense of their sexuality. Most education efforts to address sexuality occur in sex education classes. Sex education programs across many countries are criticized for being irrelevant to teen's experiences, interests, and needs; for emphasizing the biological aspects of sexuality, ignoring the power-laden dynamics that accompany sexual relations; for excluding the notion of women's desire; and for presenting messages of abstinence that are at odds with adolescent behavior (Ashcroft, 2006; Thomson, 1994; Chambers et al., 2004). As Ashcroft notes (2006), there are instructions to say no and to resist boys' attempts but nothing is said on what to do when girls say yes.

In the traditional sex education in the home, family, and community of much of Africa, sex is characterized as procreation, social interaction, cleansing and healing, spirituality, control and oppression, and family property (Chilisa, 2006). Curiously, the sex education programs offered in formal schools in Africa are more limited in scope. In Latin America, the Catholic Church has played a significant role in preventing the development of curricula that could expand the understanding of human sexuality. Usually, the Catholic Church finds new educational materials on sex education to weaken the family and to promote homosexuality and puts pressure to take the materials out of circulation. This has been documented in Peru (Muñoz, 2006), Argentina (Bonder, 1998), Costa Rica (Araya, 2006), Brazil (Rosemberg, 1990), Paraguay (Colazo, 2000), and Mexico (Bayardo, 1996). Similar efforts by conservative religious blocs have been detected in the U.S. (Bayardo, 1996). The engagement against sex education by religious groups in other parts of the world, especially the Middle East and South Asia, has not been studied.

Certain aspects of sexuality are examined very differently between men and women. A study of the treatment of menstruation in New Zealand schools (Diorio & Munro, 2000) found that it was taught as a threefold issue: the need to protect women from unwanted pregnancy, menarche as a change for which women need to learn to "cope," and as a source of individual and social hygiene problems. Teachers conveyed positive messages to boys about growing up: a time of agency, power, and "exciting and powerful body changes," while menstruation made girls "moody" (p. 353). Blood was presented as dirty but semen was not.

Sweden is one of the few exceptions to the narrow treatment of sexuality in schools. Its sex education program has been in effect for more than 30 years and has undergone constant revision. The current curriculum, in effect since 1977, teaches sexuality in the context of personal relationships and the psychological, ethical, and social dimensions of sex. In addition, there is easy access to youth clinics that provide contraception services and advocacy for sexual decisions to be shared equally by girls and boys (Thomson, 1994). Several other countries report initiatives to provide sex education. Efforts to address it explicitly have been detected in Chile but often centered on adolescent pregnancy, not on the social relations of gender, which leads to a superficial treatment of sexuality, usually as a health issue or as a threat to one's well-being (i.e., linked to sexually transmitted diseases) (Hexagram, 2006).

A peer-driven sex education program in the U.S. found to be effective built its success on detailed information about pregnancy prevention methods and its discussion of power-laden aspects of sexuality, such as boys' resistance to condom use, the threat of the condom to masculinity and the legitimacy of female desire. The program's effectiveness derived from its sensitivity to youth culture in terms of language, clothing, and mannerisms with which the peers provided the information (Ashcroft, 2006).

In Brazil, there still prevails notion that sex education may be best taught by the family since it is seen as linked to moral and religious choices. An inkling of what goes on the classroom can be gleaned from materials on sexual counseling used in the state of Rio Grande do Sul, Brazil, where in the 1990s these materials tied sexual relations to marriage between two adults, presented the reproduction process among animals and plants with considerable detail—but the human couple was presented in bed and under a blanket—and when the notion of pleasure was present, it was always in the context of a heterosexual relationship (Felipe, 1997, and Doney & Doney, 1991, both cited in Louro, 1997). More recently, however, Brazil is reported to have better guidelines in its national curriculum framework designed not only to describe the human body but also to discuss sexuality as a social construction and to integrate gender in various disciplines (Vianna & Unbehaum, 2006). This integration is said to have been done successfully in math as curriculum specialists in other areas have put up resistance to the proposed changes (Vianna & Unbehaum, 2006).

In these times of pervasive sexually transmitted diseases, some of which, such as HIV/AIDS, are life-threatening, sex education is receiving greater attention than in the past. Nonetheless, the reality of adolescent sexual activity is excluded while much attention is given to the spread of STDs and the need for prevention (Thomson, 1994). Evidence from African countries provides strong examples. A study of sex education in community junior secondary schooling in Botswana shows that messages warn students of the temptation to engage in sex and installs fear and suspicion of being HIV/AIDS positive. At the same time, discussion by teachers and students reproduce stereotypes about oppositional attributes society ascribes to boys and girls: Teachers marginalize girls' sexuality by making references and citing examples that appeal to boys' experience and their sexuality. Boys invoke religion, language, proverbs and biological attributes to legitimize male power and dominance in sex education classes (Chilisa, 2002). In Uganda, sex education is being demystified and students are acquiring skills related to sexual health. Yet, a study of one coeducational secondary school in which the majority of parents represented the country's elite revealed through interviews and observations that there was verbal sexual harassment of girls, who were treated as sex objects through messages on wall graffiti, were touched on all parts of their bodies, were talked about in sexual terms, were being written love or abusive letters, and felt forced to have sex. Girls were shaped into conformity in the classroom by boys who would shout at them, call them names, and write annoying messages in their books (Mirembe & Davies, 2001).

The School Environment

Given that schools are social settings where gender and sexual identities are constructed, negotiated, and officially sanctioned, the overall educational environment offers influential messages about gender. Gender segregation in elementary school is a significant component of childhood socialization (Thorne, 1993). Teachers use space arrangements that emphasize gender separation, though left to their own discretion, students also chose to be separated by gender. In many countries, students sit in same-sex pairs or groupings in the classroom (Warrington et al., 2000). Girls and boys often sit in separate parts of the classroom and play in separate groups at recess (as in Liberia, Brenner, 1998). In some instances, as in Yemen, girls are usually seated at the rear of the classroom (Lewis & Lockheed, 2006), but in others, such as Ghana, girls are not seated in back but dispersed around the classroom, either in small clusters or isolated among the boys (Anderson-Levitt et al., 1998).

Streitmatter (1994) found that U.S. students sitting closest to the teacher or within the “action zone” (in the front or center areas of the classroom) tend to participate more in the learning activity than students seated outside the area. Often, it is girls who sit close to the teachers and this may benefit them. An ethnography of a rural town in Venezuela (Hurtig, 1998) documents very obedient and quiet girls in contrast with more active and assertive boys in the classroom. During class presentations girls were very shy in contrast with confident though less prepared boys. Hurtig, who sought to explain the high rates of girls’ achievement and male dropout, attributed these two outcomes to the rewards girls receive for submissive and diligent school behavior and to economic and cultural factors that encourage boys to leave school and to engage in work or “street” activities.

Sexual identity builds on cultural practices and unconscious identification processes during adolescence and early adult years (Redman, 1996). In the U.K., “having a girlfriend” is taken for granted in the last years of primary school and this fosters the creation of a heterosexual culture for boys from which to exercise authority and autonomy. As students move into high school, peer cultures encourage the sexualization of girls, the demonstration of heterosexual skills by boys, and the active policing by peers of boys who are not perceived to occupy appropriate forms of masculinity (Redman, 1996). Also in the British context, research has identified that two main forms of heterosexual regulation of sexual morality and identity are the homophobic bullying of boys by boys and the misogynistic bullying of girls by boys, most of which accomplished through verbal remarks (Chambers et al., 2004). Boys who attempt to develop alternative masculinities (less aggressive and more caring identities) face social and emotional costs. Often, it is these boys—as young as 10 years of age—who defend their masculinity in front of their peer group by repudiating girls and feminine values (Renold, 2004).

Lloyd et al. (2000) provide strong evidence that school environments discourage girls when boys are provided more advice, teachers consider some important academic subjects to be unsuitable for girls, boys are allowed to harass girls, and girls’ experiences with the inequalities of treatment are not recognized by boys. This study was based on

36 rural schools in Kenya and focused on 552 students in ages 12-19. It used structured interviews with head teachers and teachers, a self-administered questionnaire to students, and observations of English and math teachers. The quantitative part of the study used numerous variables to predict dropout through regression analysis. The majority of the students reported that both sexes were treated equally, yet only 68 percent of the teachers thought math was “important” for girls and 12 percent of the girls reported being pressured for sex. Teachers’ perceptions of math relevance for girls were not a predictor of school dropout but age, particularly for girls in ages 17-19, was. More boys than girls perceived that advisors were available in the schools, that there was equal treatment, and that sexual harassment did not exist in the school. These three indicators of school environment were found to be significant predictors of girls dropping out.

It is widely recognized that schools are safe places for children. Yet, impacting forms of violence do take place there. The school socialization into masculinity and femininity patterns results in differential levels of violence among boys and girls. On the basis of a representative sample of 15,916 students in grades 4-11 in 215 primary, junior high, and high schools in Israel, Benbenishty and Astor (2005) explored a comprehensive model of school violence. Their study, based on survey data and multivariate analysis, classified violence in physical, verbal/social, and threatening forms of victimization. They found that boys underwent more physical victimization than girls and that this violence became intensified during the transition from primary to junior high school. They also found victimization to be similarly strong for boys whether in religious or non-religious schools but only at low levels among girls in religious schools. Of particular importance was the finding that gender is a stronger predictor of violence than ethnicity or culture, manifesting the universal nature of gender as a force in shaping individuals’ identities.

In South Africa, as in several neighboring countries, sexual violence in schools is endemic. Some girls are attacked by teachers but many are attacked by fellow pupils and family members. Most schools do not have counselors or programs to deal with the problem. The physical harm often results in low self-esteem, poor levels of participation in learning activities, dropping out of school, and even in acts of suicide (Vally, 2003). Similar findings derive from a rare comparative study of violence against girls in schools examined rural and urban students in ages 10 to 18 in Zimbabwe, Ghana, and Malawi (Leach, 2006). Interviews with teachers and students showed that for many persons sexual abuse is a taboo topic, often accompanied by denial. Nonetheless, many girls reported to be frequent object of aggressive sexual advances by older male students and male teachers. Teachers tended to accept boys’ sexual harassment of girls as “part of growing up” (p. 1131). Teacher preferential treatment in class and high grades in texts was often traded for female student sexual favors. Disciplinary action against teachers resulted at most in transfer to another school, which raised the question of the “suitability of the school as a site to educate young people about the risks of HIV/AIDS and the importance of sexual relationships based on negotiation and mutual consent” (p. 1132).

Physical education is an area of the formal curriculum that serves a powerful function in the production of masculinity. If well conducted, it can also serve as a site for

the emergence of strong female identities. In British schools, Parker (1996) found that sports act as a channel for aggressive behavior in which insults promote a masculinity that derides mistakes and weakness as feminine and physical force is used by male students to push other boys into conformity with hegemonic masculinity. A Brazilian case study of a girl who did very well as goal keeper in a women's soccer team found that it created resistance as the father of one of the children in the opposing team demanded proof that this girl was not actually a male (Britzman, 1996, cited in Louro, 1997).

The creation of girl-friendly environments is being advocated by several international organizations, primarily UNICEF. There is evidence that such environments should encompass areas well beyond the classroom. In rural areas of Peru, the lack of latrines and bathrooms affects the school attendance of girls (Cueto & Secada, 2004). In the African context, it has been reported that, the absence of latrines, girls experience problems during their menstruation periods. One consequence is that they appear dumb so as not to be called by teachers during menstruation (Muito, 2004). In rural areas, it is common to ask girls to do domestic chores in the teachers' homes. There are also reports of teachers sexually molesting students, a tendency particularly visible in the case of some African countries.

Boys and girls do not behave passively to their schooling environments. In the U.S., Thorne (1993) detected that children engage in "border work"—when children create single-sex friendship groups to create and strengthen gender boundaries and use space to separate themselves—but she also noticed instances of "border crossing"—moments when children disrupt gender-appropriate behavior and negotiate less polarized forms of feminine and masculine. The conscious promotion of the latter would benefit the construction of less oppositional gender identities.

Single-Sex Schools

The separation of girls and boys has been advocated in efforts to increase the academic performance of girls and to achieve more assertive personalities. It has also been endorsed to improve the academic performance of boys. In the 1980s, single-sex schools for girls were attempted in the U.K, Australia, Sweden, New Zealand, and the U.S. as a means to increase the performance and confidence of girls and to encourage them to follow math and science courses. At present, there are efforts in the U.S. to further strengthen single-sex school initiatives.

A review of the literature for single-sex schooling in the U.S. (Datnow et al., 2001) concluded that it provided a stronger academic environment, free from social distractions, for both boys and girls than do coeducational settings. Benefits for girls in self-esteem and leadership engagement in math and science have been documented. For boys, results included more male bonding and greater character development and academic benefits, especially among low-income and minority students. However, single-sex settings also promote stereotypical attitudes toward the other sex.

A study of identity formation in a cohort of upper-middle class adolescent females in an elite single-sex high school in the U.S. found that this school “supported a tamed and depoliticized feminism”: the students did want to see greater equality for men and women in the public and private domain, but most girls indicated they would prefer to stay home to raise their children, given the economic resources to do so (Proweller, 1998). Also in the U.S., a three-year study of 12 single-sex schools created in California in the late 90s interviewed teachers, administrators, parents, and students and observed academic and elective classes. Some schools were found to promote gender equity in the treatment of students while others displayed gender stereotyped practices (Datnow et al, 2001). Accounting for the differential performance of these schools, the researchers noted that they had not been created on the basis of informed gender knowledge but rather as a form of school choice to increase the diversity of the public school offerings. Their conclusion was that gender equity must be supported by well-informed practice by teachers and administrators.

Using the conceptual framework of “opportunity structure”—which argues, that before social goals can be achieved, a process must be in place favoring those goals, or, translating to the educational context, substantial provision of opportunities to learn—Lee and Lockheed (1998) conducted a comparative study of single-sex schools for boys and girls and coeducational schools in Nigeria. Single-sex schools for girls attracted richer girls, which influences achievement. The study focused on mathematics achievement and stereotypical views of math. Girls in single sex schools were more likely to show higher achievement in mathematics than their female counterparts in coeducational schools, but boys in single sex schools did less well in mathematics than boys in coeducational schools. Girls in single-sex schools reported a less stereotypical view of mathematics than coeducational schools and boys single-sex schools. Lee and Lockheed also found that aggressive teaching took place in boys’ schools and that teachers tended to talk down to girls in girls’ schools, making their academic activities less challenging.

If designed in ways that make instructional practices and school culture responsive to gender equity, single sex-schools may help girls develop academic attitudes and aspirations that are less stereotypical of family and professional life. It has been observed that girls-only classes may have positive effects for girls, but that boys’ classes do little to challenge the macho male cultures in those schools (Jackson, 2002). On the other hand, single-sex schools for boys do provide role models with male teachers, and this feature has been found advisable for underachieving boys coming from disadvantaged minorities in the U.S. and the U.K. Often coeducational schools in the U.S. context engage in a subtle devaluing of females or in the denial of opportunities that are available to males. Despite this, girls are achieving more academically but there remains a gap between academic performance and self-esteem and aspirations (Lee et al., 1994). The effect of single-sex schools depends on how these schools are organized and how their teachers are prepared to foster non-sexist environments. In countries where women are at a social disadvantage, public single-sex schooling results in a differential allocation of resources, to the disadvantage of girls. Further, if done compulsorily, physical separation of boys and girls contributes to gender stratification by reducing women’s access to an equal curriculum.

Pregnancy Regulations

The practice of expelling pregnant girls—a residue of outdated norms when it was thought that premarital sex is immoral—has been changing in many countries. However, there are two strong variations in policies that accept pregnant students: *Continuation* policies enable uninterrupted studies. These exist in several African countries (Cameroon, Madagascar, Namibia, and Sierra Leone). In a larger number of countries there are policies that call for *compulsory leave* for pregnancy and lactation before the student may return to school (Botswana, Guinea, Kenya, Malawi, Zambia, and South Africa). A case study of Botswana, based on survey data, found an insignificant number of girls were readmitted. Pregnant students and girl mothers felt unwelcome in the school community. Boys could continue their schooling but girls were subject to labeling that stigmatized the mother and myths circulated such as “pregnant girls make the rest of students sleepy” (Chilisa, 2002, p. 32). Some exceptional practices do exist. According to the governments of Denmark and Portugal, pregnant girls are allowed to return to school after they give birth; the Costa Rican government provides legal protection to pregnant teenagers and adolescent mothers through the Inter-Institutional Council on Adolescent Mothers (Muñoz Villalobos, 2006).

Peer Influences

The interaction among peers constitutes a major determinant in the gender socialization process in schools. Student constructions of their identities take place not only in relation to teachers and the official curriculum but also in conversations with classmates, activities in the playground and through their engagement in related extracurricular activities. Peer interactions can reinforce or contradict messages about gender emanating from the school curriculum. Often, peer networks are more supportive of traditional gender arrangements than are school personnel (Goetz & Grant, 1988). In the 1980s, children of both sexes were found to bring to school rather rigid stereotypes of sex-appropriate adult roles (Finn et al., 1980). Today, with a much greater exposure to mass communications and Western ideas of femininity and masculinity, students receive more mixed messages about gender. Some messages are racially based, such as the notion of uncontrollable black masculinity; others contradict school agendas (Connell, 1996); but others advance ideas of gender equality.

Observers of adolescent interactions find that boys’ peer talk constantly uses sexuality to establish hierarchies. Widespread verbal harassment of girls by boys is embedded in the collective construction of masculinity (Connell, 1996). Both boys and girls agree that boys are more likely to exhibit physical aggression, but verbal insults are the most frequent adverse behavior in same-sex interactions as well as in boys-girls interactions (Crick et al., 1996). One of the forms of aggression includes relational aggression—defined as manipulations of peer relationships by asking peers to exclude someone from the group, asking them to stop liking a particular student, ignoring or not talking to someone, telling friends that you will not like them anymore unless they do what you say, keeping someone out when engaging in play or some other activity (Crick

et al., 1996). Girls engage more in relational aggression and verbal insults, boys more in physical aggression and verbal insults. Girls' avoid physical aggression because it may hinder goals important to them such as the generation or maintenance of close connections with others. Children do view relationally manipulative acts as aggressive—intending to harm—and victims of relational aggression experience higher levels of depression and loneliness than non-victimized children (Crick et al., 1996).

Based on the notion of multiple forms of masculinity, Connell (1996) maintains that middle-class masculinities today are organized around careers—a masculinity that relies on competition through expertise rather than physical confrontation. In his view, “It seems likely that the construction of masculinities that emphasize responsibility and group cohesion, rather than aggression and individuality, has helped the educational success of youth from Chinese and Japanese ethnic backgrounds in North America” (Connell, 1996, p. 220).

A study of three secondary schools of various social class and ethnic compositions in the U.K. examined the construction of gender through classroom observations of teacher and student behaviors and interviews with students (Francis, 2000). It found that gender continues to be constructed in very polarized ways, with stark distinctions between what is considered masculine and what is considered feminine. In the classroom culture, boys were challenged into being active, aggressive, competitive, and interested in heterosexual contests, although, unlike previous decades, boys were no longer seen by others as superior and girls manifested greater confidence in their educational abilities. Among peers, there were frequent informal displays of male heterosexuality. Boys used sexual comments to denigrate girls and displays of academic interest and capacity were more problematic for boys than for girls. Verbal abuse was found much more often among girls than boys. Girls tended to construct themselves in oppositional ways to boys: they saw their actions as sensible and selfless and those of boys as silly and selfish. Boys in the classroom tended to be loud and disruptive and to monopolize the classroom space (Francis, 2000). Also in the U.K., a year-long ethnographic study on the construction of gender and sexual identities among students in their final year of primary school found that girls seeking academic success were typified as “square girls”: these girls experienced difficulty trying to establish a femininity that did not revolve around boys, a certain presentation of the body, and supportive dyadic friendships (Renold, 2001). Being “square” meant that the girls were ostracized, teased and ridiculed by both boys and girls for crossing traditional boundaries of masculinity and femininity.

The Peruvian study cited above found that a high proportion of primary school boys thought men are better in math than women, politics is a man's concern, and domestic work is a woman's responsibility, although this proportion was smaller among boys and girls of middle-income than those of low-income stratum. The majority of girls rejected the notion that politics is for men only, yet a high proportion agreed that domestic tasks are a woman's responsibility (Espinosa, 2006). On the other hand, observations of Norwegian children between the ages of 10 and 13 indicate that a model of the ideal student is emerging, in which traditional girl values, particularly those

regarding cooperating skills, are receiving greater acceptance than traditional masculine value (Backe-Hansen & Ogden, 1996)—a finding that presumably has negative consequences for boys as “the girls become normative for the expectations boys are met with” (p. 347).

Teacher Training and Development

Children bring to school strong gender notions from family and society. It is the school and teachers’ challenge to alter negative ideologies. Even in developed countries, the dominant construction of female teachers, particularly in the primary school, remains one of “surrogate mother,” though more women are attaining senior management positions and moving into contexts where traditional nurturing femininity is at odds with the demands of their post (Reay, 2001). There has been an evolution in the social perceptions of teachers, however. For example, in the early 1900s in Brazil, a woman’s destiny was to marry and have children. So those who first taught were women who “lived alone” and thus were different from other women; female teachers were often depicted with glasses and somber expression. Today this is no longer the case in Brazil (Louro, 1997). American teachers see themselves as mothers while men are less willing to provide nurturing to students (Hubbard & Datnow, 2000). Further abetting a traditional feminine identity is that, in many countries, most of the women who become teachers do so at a very young age in their lives, usually before they have developed assertive definitions of self (Martina, 1993). This suggests that teachers require training that promotes a thorough understanding of how gender interacts with other identity variables of their own before they can recognize their own and their students’ attitudes, expectations, and beliefs.

Vianna’s 1999 study of collective action by teachers in Brazil found that teachers’ union participation excluded models of femininity that characterized women as submissive; further, family life factors, such as the husband’s close monitoring of wife’s outings, constrained their union participation. Nonetheless, some men and women teachers were conscious of the male-domination of unions and accepted interpersonal relations were important in pedagogical and labor union work and not just an element of traditional feminine culture. Argentine female teachers were found to hold gender stereotypes and prejudices but to react positively to training to modify sexist norms (Bonder, 1999). In the Anderson-Levitt et al. study cited earlier, female teachers in Guinea provided girls with rare role models of women who had completed school; yet having a woman teacher did not guarantee greater class participation of girls.

Educational reform discourses since the 1990s have emphasized student performance and achievement. Consequently, most efforts to improve the classroom concentrate on teaching reading and math. Seldom in place are measures to disrupt children and adolescents’ traditional gender-stereotyped attitudes and behaviors (Skelton, 2006). There has been little attention to gender development of teachers in Africa (Muito, 2004). Similar observations can be made about other regions of the world, although there have been sporadic efforts to provide sex education training for teachers. In Peru, for instance, from 1996 to 2002, training in sex education reached 11 percent of

teachers, in both primary and secondary school (Montoya, 2003); in Argentina, provincial-level training also during a brief period presented information on sexual harassment, sex education, adolescent pregnancy, and harassment of nonsexual boys (Bonder, 1999); a short-term teacher training program took place in Chile where there was joint action between the Women's Ministry and the Ministry of Education in 2000 (Hexagrama Consultoras, 2006).

The need for the gender training of teachers remains unsatisfied and the agenda is extensive. Such efforts would train them to:

- work more effectively with boys and support cooperative and interactive teaching and learning (Younger et al., 1999);
- engage them in systematic analysis and critical reflection of their teaching (Drudy & Chatáin, 2002);
- understand how students feel about the cultural climate in the classroom and convey sense of respect and confidence to all students while eliminating all aspects of violence and sexual harassment (Davis, 1993; Connell, 1996);
- develop sex education programs that question gender roles and sexual stereotypes, and explore issues of sexual identity as well as issues of control and consent in sexual relationships (Thomson, 1994); and
- adapt the overall curriculum to teach boys to reassess gender relations, challenge traditional notions of masculinity (Jackson, 2002; Warrington et al., 2000) and enable an understanding of alternative ways to define one's gender identity.

The case of South Africa regarding school administrators is of particular interest, given the democratic ethos of that country and its persistent commitment to attaining racial and sexual equality since independence more than a decade ago. Although supported by discourses of social justice, women in higher administrative positions in South Africa operate in a frame that associates leadership and competence with masculinity, rationality, and whiteness (Chisholm, 2001). Interviews of male and female administrators found that incompetence is perceived to be associated with femininity and lack of assertiveness. Black female administrators were challenged by subordinates' assumptions about the inferiority of black people and of black women, in particular. White women administrators felt a lack of authority, less in relation to white men than to black men and women. In addition to these biases, domestic responsibilities interrupted women's participation in public life and compromised their ability to play leadership roles. As a result, South Africa has experienced a slow but steady turnover of women from administrative positions in education and consequently more men now fill those positions. Motala (2003) observes that there is need for gender-awareness training of all South African education department officials and for more gender officers to be strategically located in order to mainstream gender as intended in the country's policies. On the other hand, the government of South Africa has instituted a program to promote girls' education from a gender perspective, the Girls' Education Movement, which provides training for girls in occupations previously seen as masculine. Another significant exception seems to be Ethiopia, which has provided training for teachers and academics on gender equality (Muñoz Villalobos, 2006).

Major publications on the need to improve the preparation of teachers are silent about issues of gender in the curriculum and in the repertoire of gender knowledge and skills of teachers (e.g., Pearlman et al., 2004, on Latin America). A summary of the types of evaluations *pre-service* teachers undergo in seven Latin American countries and of the types of evaluation *in-service* teachers undergo in nine Latin American countries indicates that attention is given to teaching methods and the central curriculum but does not mention any sensitivity training in gender issues (Schulmeyer, 2004). Two recent comparative studies of gender policies from a gender perspective in Latin America confirm that little attention is given to gender training. Examinations of Costa Rica, Peru, and Brazil (Stromquist, 2006) indicate that policies do not cover gender issues in the pre-service training of teachers and that efforts to consider such a focus for the training of in-service teachers is present only in the national plans of Brazil. A similar study of Argentina, Chile, Colombia, and Peru show that the treatment of gender is still weak, with more progress being made in the use of an inclusive language and in the elaboration of pedagogical guidelines and suggestions than in the integration of gender in the curriculum (Hexagrama Consultoras, 2006). In Latin America, ministries of education are increasingly setting up organizational units to deal with gender equity or sex education, but the amount of training in-service teachers receive on this subject is very limited and absent in pre-service teacher training programs (Stromquist, 2006). From the existing evidence, it can be asserted that most current efforts toward innovation and efficiency in the teaching profession are oblivious to the treatment of gender in the classroom. Gender is not addressed in current curriculum reforms.

Implications of the Research Findings

An initial reaction to this review of the literature may be that research has tended to concentrate on illuminating the reproduction of sexist arrangements and less on the exploration of the transformative potential of schools and classrooms. But, at another level, the existing research also reflects the current state of affairs in schools and classrooms.

Education has a twofold effect: It empowers those who have schooling; certainly, educated women have more progressive attitudes than uneducated women. But it also brings individuals into conformity with dominant rules and norms. The studies from various parts of the world reflect commonalities in the functioning of schools from a gender perspective. These institutions create and maintain gender ideologies, leaving a narrow margin for the questioning and the reframing of gender beliefs and practices. Schools tend to mirror society. So, for schools to bring positive change to their treatment of gender, they would have to *actively counteract social influences*. Most of the attention to gender issues in education has highlighted the importance of *access* to schooling, while ignoring the considerable *socialization process* that takes place in educational settings.

Despite increased development in the analytical frameworks of gender studies programs at the university level and the sharper understanding of the daily school and classroom microprocesses in the conformation of gender identities and ideologies, little

of these conceptual advances has appeared echoed in national educational policies and curriculum reforms. At present, there is scant consciousness among teachers and administrators of gender discrimination in educational settings and of the need to face these problems.

In the Latin American context, democracy is a central preoccupation in all American Summits and is identified as a prerequisite for development. But development is defined in those meetings as governance, although there is a growing concern for the empowerment of organization of civil society and the increasingly important role of education in a knowledge society (Feldfeber & Saforcada, 2005). Equity is recognized as a key component of democracy and progress is being pursued toward political citizenship and participation (UNDP, 2004; Sáinz, 2006), and yet there is no inclusion of gender in this concern. Equity is discussed as fair treatment for a very abstract “all.” Decentralization efforts—a common focus of many educational reforms—have not been accompanied by a gender concern; specifically, the authority and autonomy that devolved to local units designed to generate empowerment have not been tied to efforts to train the community in gender issues.

A concept of great salience in educational policies today is quality, a concept promoted by OECD since the early 1990s. OECD (1995) defines quality of education as “that which ensures all youth the acquisition of knowledge, capacities, skills, and attitudes necessary to equip them for adult life” and considers the elements of quality to be curriculum, teachers, school organization, academic achievement results and their measurement, and resources. Quality should be expanded to give proper attention to the gender socialization experiences students undergo in schools. The presence of supportive teachers and advisors, the gender attitudes of teachers, school policies on sexual harassment, student experience with harassment, students’ views of gender equality within the classroom—all these should be considered in an expanded vision of quality (Lloyd et al., 2000; Stromquist, 2007).

There are signs of regression in some countries when public policies refuse to acknowledge the social construction of gender in schools and how it impacts curriculum, pedagogical practices, and relations with and between students. Current policies in Australia, for instance, assert that the educational needs of boys are not being addressed and propose “boy-friendly curriculum, assessment, and pedagogical practices.” This position has been criticized for implying that women and girls are no longer being discriminated against and that it is boys who now suffer disadvantage and discrimination, thereby avoiding any reference to the dominance of men in high positions of power and remaining silent about the role of social class distinctions in academic performance (Mills et al., 2007).

Regional Trends

Studies on gender socialization in schools document situations in the industrialized world more than those in emergent nations. Remarkably little work

addressing educational experiences and problems can be found for the Middle East and South Asia. Most of the studies focus on urban settings, leaving rural areas as unmapped terrains. This state of affairs seems the result of the low priority given to research on gender issues on the part of governments, which then makes such studies more dependent on international support and personal resources.

The various research findings, independent of regional location, point to similar patterns:

- Schools engage in substantial gender ideology formation and transmission through classroom practices, teachers' attitudes and expectations, and the intense but rather invisible work of peers.
- Much of the gender construction in schools creates very distinct notions of what it means to be a man and a woman, with polarized attributes for femininity and masculinity. This construction is similar across levels of education and intensifies as the time in school expands.
- Across most countries, boys continue to dominate classroom time and space, a practice that seems to create subdued girls and naturalizes differences between men and women.
- Academic performance of boys and girls is moving toward convergence, but notions still remain about fields of study and occupations that result in their clustering by gender.
- The curriculum, especially sex education, continues to center on biological features and refuses to acknowledge social dimensions of adolescent sexuality and treats sex as an issue to be controlled by others.
- Peers contribute powerfully to the climate of classrooms and to the re-enactment of conventional sexual norms. In the peer culture, boys feel pressured to be less academically oriented.
- While many teachers are women, their own lack of professional training on gender issues does not build on their potential as role models for transformative work or as advocates for gender social justice.
- Most public education policies fail to recognize the socialization role of schools and to address detrimental effects through intensive counter measures. Overall, little progress can be detected in the past decade in terms of transformations in policy and practice from a gender perspective.

National contexts vary a great deal; yet, it is surprising to see the similarity of gender-related experiences across countries. Research findings question the validity of the assumption that schools are gender-neutral or empowering institutions. It is clear that

to change gender ideologies we need to change the culture of the schools and that to change this culture work with the professionals in those schools is indispensable. This assertion underscores the urgency to identify ways to cooperate with teachers and educational administrators to improve through comprehensive and continuous training their understanding of and response to gender issues.

Over all, there is room for optimism regarding gender in education: to the extent that gender is socially constructed it can also be socially altered. The power of education consists of its ability to raise consciousness through knowledge. But to achieve change in social attitudes and discourse, schools and educational policy makers must take a much more proactive position.

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