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Gender Differences in Secondary School Teachers' Control over Classroom and School Policy

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The study described in this article examined the effect of school gender organization—whether it is a boys' school, girls' school, or coeducational school—on gender differences in teachers' perceptions of organizational control. The study was conducted in U.S. independent schools, both because of the variety of gender organization in these schools and because of the tendency for independent school teachers to have more organizational influence than their counterparts in public schools. Hierarchical linear modeling (HLM) methods were used to analyze a sample of 629 mathematics and English teachers in a stratified, nationally representative sample of 60 independent secondary schools. In coeducational schools and boys' schools, male teachers perceived greater influence over school policies outside of the classroom than did female teachers. These gender differences were especially great in coeducational schools. In girls' schools the trend was reversed, however, with female teachers experiencing greater influence than male teachers. These findings provide insight into school organizational factors, especially single-sex grouping, that either inhibit or facilitate the empowerment of women teachers.

This study investigates gender differences in secondary school teachers' perceptions of their control over policies affecting their classrooms and their schools. We ask whether these gender differences are functions of school organizational characteristics. By comparing teachers
in girls', boys', and coeducational schools, we test the hypothesis that schools with different gender organizations differentially empower their teachers. This hypothesis is grounded in two differences between schools grouped and those not grouped by student gender: (a) differences in the overall focus of the schools and (b) differences in the proportions of men and women on staff, both as teachers and in positions of administrative power. We focus our investigation of teacher control in independent (i.e., elite private) schools both because these schools include girls', boys', and coeducational schools and because teachers in such schools have been shown to have more autonomy in their classrooms and more input into their schools' policies than their counterparts in American public secondary schools.

Background

Gender and Control

High school teaching is one of the least gender-segregated occupations in the United States, with roughly equal numbers of men and women teachers (Bielby and Baron 1984; Lee and Smith 1990). However, high school administrators are overwhelmingly male (American Association of School Administrators [1985], cited in Pounder [1988];

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NCES [1989]; Stockard and Johnson [1981]). Recent research has documented this gender disparity, as well as salary inequities between male and female administrators with largely similar qualifications (Hammer and Gerald 1990; Jones and Montenegro 1988; Pounder 1988; Shakeshaft 1985, 1987; Yeakey et al. 1986). Women teachers without official administrative functions also have been found to have lower salaries and less opportunity to influence school policies than their male counterparts (Charters and Jovick 1981; Gilbertson 1981; Lee and Smith 1990).

The most common explanation for the lack of female control in schools is that women teachers do not want it. In reviewing the literature on the sexual division of labor in schools, Acker (1983) finds a pervasive emphasis on individual choice, suggesting that women’s lack of influence beyond the classroom is due to lack of ambition and to responsibilities at home. Male teachers, this argument suggests, have fewer family responsibilities and tend to regard teaching as a step toward an administrative position. They are thus more likely to involve themselves in activities beyond the classroom in order to enhance their career prospects. This argument is similar to a more general one that historically has been posited for the sexual division of labor (Chafetz 1990; Geile 1978).

The gender disparity in teachers’ influence, however, may be due less to choice than to differences in opportunities available to men and women (Acker 1983; Schmuck et al. 1981). Summarizing several studies, Schmuck (1981) notes that administrators (usually males themselves) typically choose to involve male teachers in discussions about school-level problems. Charters and Jovick (1981) find that while there are no gender differences in the amount of interaction between school heads (i.e., principals) and teachers on issues concerning the classroom or on nonwork issues, female teachers interact with their principals substantially less than male teachers on matters concerning the school as a whole. Research indicates that this disparity is due not to gender differences in how much teachers initiate discussions on school policy, but rather to differences in principal-initiated interactions. Principals initiate more interactions concerning school policy with male than with female teachers (Gilbertson 1981).

A number of explanations have been posited for such differential treatment by school heads or principals. Principals, who are usually men, may feel more comfortable and able to trust other men. They may be more inclined to listen to advice from male teachers and to promote them to positions of administrative power. In addition, prevalent sex stereotypes among both men and women may lead administrators to believe that women are less capable than men of effective
management and long-term vision needed for administrative success (Kanter 1977; Chafetz 1990; Ragins and Sandstrom 1989). This view arises from beliefs that either women in general are less capable than men, or the sexes are suited for different roles (Reskin and Roos 1990). For example, a principal may feel comfortable giving a woman teacher autonomy in her classroom and influence over policies that directly affect her work there—much as men are often comfortable allowing women autonomy over household affairs. However, the same principal may be less comfortable with women asserting control over school policy and long-term planning.

As they participate in school decisions, teachers typically acquire the ability to deal with school problems effectively. Teachers demonstrating effective decision-making skills are, in turn, more likely to be given additional opportunities (Gilbertson 1981). Thus, obstacles to participation can have serious repercussions for female teachers. In addition, research in organizations other than schools indicates that workers with less influence are less likely to pursue influence and advancement aggressively (Kanter 1977; Wheatley 1981). Following this reasoning, it is likely that women teachers, seeing the disparity in their opportunity to influence school policy, feel discouraged from competing with their male counterparts for visible positions of influence. In reaction, such teachers may either retreat from active participation in school decision making or shift their attention toward the classroom and away from school-level policy. Thus, differences in opportunity, rather than women teachers’ personal choices, may be producing the gender differences in control over school policy.

Organizational factors are also important. Aspects of the school workplace environment may differentially empower teachers to influence school policy. Several studies have addressed the effects of principal or department head gender on teachers’ attitudes and behaviors (Bidwell and Quiroz 1991; Charters and Jovick 1981; Lee et al. 1993b; Roussel 1974). Male school heads seem to create different organizational environments than do female heads. For example, while men and women administrators respond similarly to similar situations, women administrators tend to communicate more with both teachers and students than their male counterparts (Charters and Jovick 1981; Fauth 1984; Gilbertson 1981; Gross and Trask 1976; Pinter 1981). This difference in style may differentially empower male and female teachers. Lee et al. (1993b) found that teachers, regardless of gender, feel more empowered to influence school policy when working under female school heads. The empowering effect of working under female school heads, however, is much greater for female teachers than for male teachers.
The gender of the principal is only one aspect of the school environment affecting teachers’ perceptions of their control. As a second example, Chafetz (1990) suggests that the degree to which gender roles are defined as different affects the maintenance of the gender system in that environment. Organizations with strong sex stereotyping tend to have women and men in separate occupations. Since men have held positions with organizational power in the past, an environment that strongly differentiates men from women tends to pass power from male leader to male leader, while a less differentiated environment leads to more shared control among women and men (Geille 1978).

Schools often promote sex stereotypes (Epstein 1988; Hansot and Tyack 1988; Martin 1990; Rossi 1987; Tyack and Hansot 1990). Yet, schools differ markedly in the salience they attach to gender (Hansot and Tyack 1988). Research on U.S. women’s colleges indicates that these schools de-emphasize sex differences and that their graduates disproportionately pursue careers that are not typically female (Tidball 1980). Single-sex high schools may also de-emphasize sex differences. They serve only one sex and thus may be more inclined than coeducational schools to reward the successes of students in both sex-traditional and nontraditional areas. Thus single-sex schooling may create an organizational environment that de-emphasizes sex differences and thereby facilitates the participation of female teachers in decision making.

In summary, women working in schools have been found to have less organizational control than men. A number of societal and organizational factors contribute to this differential. Among these factors may be the gender organization of the school, both because of differences in the proportion of female teachers and administrators and because of differences in the extent to which the sexes are differentiated in these schools.

Single-Sex and Coeducational Schooling

The development of coeducational schools was regarded by early feminists as an equalizing structure for young women (Lasser 1987). Yet, with coeducation now virtually the norm in U.S. public elementary and secondary schools, a critical perspective is emerging that indicts coeducational schools as environments where sexism is learned and reinforced and where young men and women are socialized into a society stratified by gender (Epstein 1988; Hansot and Tyack 1988; Lee et al. 1994; Martin 1990; Rossi 1987; Tyack and Hansot 1990).
Coeducation has recently come under scrutiny and criticism for its gender-discriminatory policies and practices (Hall and Sandler 1982; Krupnick 1985; Sadker and Sadker 1986, 1990). Similarly, although single-sex education traditionally served to support an unequal social arrangement between the sexes, in its contemporary form it may also offer special opportunity structures for young women (Epstein 1988; Lee and Marks 1992). Rather than second-class education (as Title IX would suggest), single-sex schooling may actually help young women surmount discrimination and stratification in the larger social arena (Keohane 1990; Lockheed and Klein 1985). In fact, U.S. single-sex Catholic secondary schooling has been shown to produce benefits, especially for young women, on a range of outcomes, including academic achievement, academic attitudes and aspirations, less stereotypic views on sex roles in family and professional life, and political activism (Lee and Bryk 1986; Lee and Marks 1990; Riordan 1985, 1990).

The organizational characteristics of schools grouped by gender also vary. For example, Marks (1994) found considerable disparity among single-sex and coeducational secondary schools on an index of integrative school organization. Differences paralleled school gender grouping, with girls' schools the most integrative organizations. Staff collaboration and student preference for cooperative rather than competitive problem solving characterized girls' schools, which were more likely to be caring environments reflecting an array of communitarian values. Although half the coeducational schools were integratively organized, boys' schools rarely evidenced even modest levels of integrative organization.

The link between integrative organization and school gender grouping suggests a continuum of school cultures based on gender. When either women or men constitute a social group, its culture differs from that of a mixed-gender group and typically reflects the prevailing gender—feminine or masculine (Hofstede 1991; Lenz and Meyerhoff 1985). In feminine cultures, managers typically draw on workers' views to build consensus, and they use compromise and negotiation to resolve conflicts. In masculine cultures, the manager-as-boss is normative, with an expectably assertive and directive leadership style. In mixed-sex workplace groups in virtually all societies, males dominate—a function of traditional roles and socialization (Hofstede 1991).

Although a modest body of research has assessed the effects of single-sex schooling on students, little empirical scrutiny has been directed toward the effects of school gender organization on teachers. A recent study of teachers' professional community in restructuring schools (Louis et al. 1994), however, has demonstrated a strong relationship between professional community and the proportion of fe-
male teachers in the school. It seems possible that the single-sex environment, perhaps by means of organizational differences, could empower female teachers, as it has been shown to empower female students.

Organizational Control

Why is the study of the effects of school organization on teachers' perceived control, and of school gender organization in particular, important? Teachers, overwhelmingly, want more influence than they have (Bacharach et al. 1986; Corcoran 1990; Duke et al. 1980; Miskel et al. 1979). Moreover, research in schools and other types of organizations indicates that increased participation in decision making for teachers or for people in similar organizational positions (i.e., middle management) can result in increased job satisfaction, increased commitment to organizational goals, and decreased ambiguity and conflict over roles (Bacharach et al. 1990; Conway 1984; Mohrman et al. 1978). Other studies also suggest the possibility of increased productivity resulting from participation in decision making (Alutto and Belasco 1973; Brofenbrenner 1976; Corcoran 1990).

In addition to benefiting the teachers, increased teacher influence can benefit schools. Decisions resulting from shared decision making may, in themselves, be better decisions than those of the administration alone, given teachers' intimate knowledge of the classroom and their students (Conley 1988). Because teachers work with students on a daily basis, they are in a better position to determine which school policies will produce desired results. Teachers who participate in the formation of school goals and school policy also may be more enthusiastic and effective in their implementation.

Loose coupling, isolation, and goal ambiguity.—Although the benefits of teacher control over school policy have been well documented, few teachers have had such control. Historically, a major division of labor in schools assigned teachers considerable discretion in decisions confined to their classrooms, while affording them little voice in larger school decisions (Lortie 1975; Shedd and Bacharach 1991). Weick (1976) used the term "loose coupling" to describe the organizational structure of public schools. In a loosely coupled school, the activities of one teacher have little impact on the performance of other teachers. Teacher A has little influence on, or even knowledge of, the activities of teacher B. The teachers are connected to one another only through the administration. This teacher-administrative connection is, in itself, weak because of the control that each individual teacher has over his
or her classroom and because of the separation of organizational roles within the school.

Educational activities constituting the technical core of instruction in a typical public high school are loosely connected to the school's authority system (the principal and superintendent). This separation of functions leads to teachers' being left in charge of daily classroom operations but allowed little influence on school policies, while administrators take charge of long-range decisions and planning. Teachers in loosely coupled schools work in isolation from both their supervisors and their peers, which limits their knowledge of activities outside of their classrooms (Bidwell 1965; Bidwell and Quiroz 1991; Bridges and Hallinan 1978; Lortie 1975). While such isolation allows teachers flexibility to determine the objectives and goals for their classrooms, the separate determination of goals by individual teachers can result in ambiguity or uncertainty about the central purpose of the school and about each member's role (Firesstone and Wilson 1985; Herriot and Firesstone 1984; Schwab and Iwaniki 1982). A consequence of such uncertainty is a lack of consensus about the school's goals and mission. Teachers may have differing goals for their students, goals that may be at odds with each other and with the official goals of the school (Fuller and Izu 1986; Hoy and Ferguson 1985).

Because the goals of teachers in loosely coupled school organizations differ among teachers and from those of administrators, close interaction among different groups or even among different members of the same group often result in conflict (Forsyth and Hoy 1978; Hoy and Ferguson 1985). Loosely coupled schools tend to develop what Weber (1947) called a "bureaucratic-legalistic authority structure," in which members must move through formalized mechanisms to interact with other members.

Not all schools fit into Weick's concept of loosely coupled systems. Schools may exhibit a strong sense of central purpose and a shared value system about education (Bryk and Driscoll 1988; Bryk et al. 1993; Lee et al. 1993a; Purkey and Smith 1983; Rosenholtz 1989). Schools with a strong central purpose work to coordinate the technical core of operations with this purpose. Their teachers regularly monitor operations on a larger scale than their classrooms (Rosenholtz 1987, 1989). Although such schools may or may not operate under bureaucratic structures, the cultural linkages among the staff facilitate communication about their activities, sharing of difficulties and solutions, and professional interaction about the processes used to educate students (Bryk and Driscoll 1988; Little 1982; Meyer and Rowen 1978; Rosenholtz 1989; Rutter 1986). These communal schools may achieve the benefits of increased teacher control. Because of this, current re-
structuring efforts are attempting to move schools toward a communal organization by giving teachers more control over school decision making (Lee et al. 1993a; Lee and Smith 1993).

**Independent Schools**

American independent (National Association of Independent Schools [NAIS] affiliated) secondary schools generally fit the model of communal organizations better than public schools, as beliefs about organizational missions converge and teachers participate more in decision making (Chubb and Moe 1990; Coleman 1987; Kane 1986). More teachers in independent schools simultaneously serve in administrative roles, whereas in the public schools “going up the social hierarchy means going out of the classroom” (Kane 1986, p. 13). Moreover, independent school clients typically choose schools whose educational goals and philosophies are similar to their own (Coleman and Hoffer 1987). This creates both a potential for agreement on educational goals not available in the public sector and a diversity among independent schools, each projecting its individual philosophy of education.

Independent school teachers can choose schools, and thus colleagues, with values that they share. Such philosophical agreement facilitates stronger collegial relationships among teachers and a degree of coordination between home and school not often possible in the public school setting. Writing about independent schools, Powell (1990) notes, “A purposeful community can deepen teachers' vocational identity and commitment to a school, build a web of collegial and other teacher supports, and directly assist teachers in getting the educational job done” (p. 120).

Independent schools, in general, have an organizational structure that provides teachers with some influence over school policies. They thus may accrue some of the benefits of increased teacher influence. In addition, these schools have the variety of gender organization not found in the public schools, which allows for the study of the effect of gender organization on the differential empowerment of male and female teachers. In the United States, federal legislation focusing on educational equity by gender (especially Title IX) has precluded the continued existence of single-sex public schools. Because of this, the study of the effects of the gender organization of schools on teacher control is limited to the private sector.

In the past three decades, the number of independent schools in the United States has increased substantially relative to a corresponding decline in Catholic schools (Cooper 1988). Between 1965 and 1983,
proportional decline in the Catholic sector amounted to 46 percent of students and 29 percent of schools, while the proportional increase among NAIS schools was 69 percent of students and 25 percent of schools (Cooper 1984). More important to this study, both sectors have experienced steady erosion of their single-sex schools, especially boys’ schools. In 1988, among Catholic schools, 18 percent were all boys and 20 percent all girls (Lee and Marks 1990); in 1987, among independent schools, 11 percent were all boys and 16 percent were all girls (NAIS 1987).

Although both independent and Catholic schools provide the variety of gender organization necessary to address the effects of gender grouping on teacher influence, independent schools, as noted above, provide a setting where researchers are able to examine an organizational context that includes local autonomy, touted as a major goal of recent school reform efforts. The thrust of this form of school restructuring is directed to public schools. Yet, independent secondary school teachers already have considerably more autonomy over conditions affecting their teaching (Lee et al. 1991) and over school policies (Chubb and Moe 1990) than do their public-school counterparts. Thus, by studying teacher influence in independent schools, we are able to assess the impact of gender organization in a context in which teachers already have some influence over the policies of the school.

The Research Questions

Although approximately half of all secondary school teachers are women, women have less control in schools than do men. Gender equity in organizational influence is particularly important because of the potential benefits of increased influence, including greater job satisfaction and possibly increased productivity. School organizational features, including such factors as principal gender and school size, can affect teachers’ perceptions of the influence they exert in their schools. School gender grouping may be another organizational feature that affects teachers’ perceptions of control, especially the difference in perceptions between male and female teachers. In this study we investigate the effect of school gender organization on men and women teachers’ perceived control over policies affecting their classrooms and their schools. In addition, we examine the possibility of an interaction between teacher and school gender, whereby gender matching may result in especially empowering environments.
Method

Sample and Data

The data for this study were collected in 1988–89 as part of the National Study of Gender Grouping in Independent Secondary Schools, a broad-based investigation of single-sex and coeducational schooling in American non-Catholic private high schools. The study used a two-stage probability sample to select schools from a stratified roster of the secondary school membership of the NAIS. Sixty schools were selected—20 each from the list of boys' schools, girls' schools, and coeducational schools. The probability of selection differed considerably by school type—highest for boys' schools (.27), lower for girls' schools (.19), and lowest for coeducational schools (.04). Response rates for the survey questionnaires were high—93 percent for students, 94 percent for teachers, and 100 percent for school heads. Both quantitative and qualitative data were collected. Full details of sample selection and description may be found in Lee and Marks (1992).

The sample for the quantitative data consists of the entire 1989 senior class in each sampled school (n = 3,183 students), all secondary-level mathematics and English teachers in each school (n = 629), and all school heads (n = 60). While schools range widely in size, with the senior class varying from a low of six (a girls' school) to a high of 141 (a coed school), all schools would be considered small by public school standards (averaging less than 250 secondary-level students). Girls' schools are generally the smallest, although one had 96 seniors. The schools are organized in a variety of ways; some contain only secondary-level students (about 24 percent contain grades 9–12), while the largest group are K–12 institutions (35 percent). Several (25 percent) are boarding schools. Tuitions are high (1989 average of $13,560 for boarding schools, $7,225 for day schools). There are somewhat fewer girls than boys (18 percent less) in coeducational schools.

This study's sample consists of the 629 surveyed English and mathematics teachers, which contains more male (375) than female (254) teachers. It is not surprising that proportions of male and female teachers vary substantially by school type; only 14 percent of the teachers in boys' schools are female, while 73 percent of those at girls' schools and 43 percent of those at coeducational schools are female. The teachers' average age is 40 years, and, on average, they have been teaching for 13 years (eight years at their present school). Over half of the female teachers have formerly taught at public schools (52 percent), compared to a quarter of male teachers (26 percent). Most
of these teachers never attended private schools as students (only 35 percent ever did), and even fewer attended private schools continuously through elementary and high school (10 percent). The majority of teachers at the three types of schools hold advanced degrees, with the largest proportion among male teachers in girls’ schools (76 percent).

Measures

Dependent measures.—As we are interested in assessing gender differences in teachers’ influence, our two dependent variables tap this construct. Using factor analysis, we created two dependent measures from 15 individual items from the teacher survey in the National Study of Gender Grouping in Independent Secondary Schools. The items tap teachers’ perceptions of the influence teachers in their schools have over particular school procedures. One composite variable measures teacher influence on policies directly affecting their classrooms; another composite measures influence on policies affecting the school as a whole. Appendix A provides details of each factor (psychometric characteristics, individual survey items included in each, factor loadings of each component), as well as details of construction for all other variables included (or considered) in our analyses. Appendix B provides individual means of each component in our dependent measures for six teacher groups (male and female teachers in boys’, girls’, and coeducational schools) and provides the results of statistical tests for three group contrasts on each component with one-way ANOVA. We standardized these dependent measures, with means of zero and standard deviations (SD) of one. These two factors, as well as other composite factors used in this study, were constructed through the principal component extraction and varimax rotation options in the factor analysis procedure.

The factor tapping teachers’ influence over classroom policies includes four items: perceptions of how much influence teachers in their schools have on (a) establishing a curriculum, (b) selecting the content of courses, (c) selecting teaching methods, and (d) determining grading practices. The factor has a respectable reliability ($\alpha = .79$). The second dependent variable, teachers’ influence over school policy, includes 11 components and has high reliability ($\alpha = .87$). The measure includes teachers’ perceptions of how much influence teachers have over (a) school budget, (b) school goals, (c) admissions policy, (d) discipline policy, (e) scheduling, and the (f) hiring and (g) dismissing of teachers. Also included are four general items from the teacher survey querying
how much teachers in their schools are involved in school decision making.

Independent measures.—The independent measures of special focus involve gender: teacher gender and the gender organization of the school. The first is a self-report from the teacher survey. Gender organization is a three-level categorical variable that we converted into two dichotomous variables, either effects-coded or dummy-coded, for use in our analytic models. In addition to measures of teacher gender and school organization, we introduced four control variables. The purpose for including these variables as controls is to minimize the possibility of alternative explanation for our findings. These include a measure of teachers' teaching experience (i.e., the years each teacher has served at his or her present school). The logic here is that teachers may gain control or influence the longer they work in the same environment. Years of teaching at the present school was a self-report from the teacher survey. In addition, we used a quadratic term for years of experience to account for nonlinear effects of teaching experience (Lee and Smith [1990] use a similar control).

We also include three school-level controls that have been important in other studies using these data: school selectivity,3 finishing school status, and school size (Lee and Marks 1992; Lee et al. 1994). We hypothesize that teachers may see themselves or their colleagues as having more control in schools that are more selective, since such schools obviously have more control over whom they admit. Finishing school status may be seen as a negative factor by teachers, since it could detract from what they see as their major mission (i.e., academic teaching). The notion of finishing schools is based on the idea that some private schools (in theory, particularly girls' schools) have a strong mission to put a "social polish" on their students.4 School selectivity and finishing status are school-level composites created from school and aggregated student measures. We include a measure of school size, as we hypothesize that teachers may feel relatively more control in more intimate settings. The school size measure comes from the survey of school principals and refers to the size of the high school.

In addition to these independent variables (which appear in the final analytic models), we conducted preliminary investigations to examine the effects of several other covariates that might provide alternate explanations for our findings: whether or not the teacher attended a private school, whether or not the teacher attended a single-sex school, the teacher's subject area (mathematics or English), the number of years that heads have been at their schools, and boarding/day school status. In preliminary multivariate models, none of these variables were related to either outcome, and thus we removed them from the
final models. All independent variables in the final models are significantly related to at least one of the two dependent variables in multivariate analyses.

As our focus is on the differential effect of school gender organization on male and female teachers' influence, we created two interaction terms. The first measures the interaction between whether the school is all boys or coeducational and teacher gender; the second term measures the interaction between whether the school is all girls or coeducational and teacher gender. We created these variables by multiplying the effects-coded gender variable by the effects-coded school-type variables. The main effects of teacher gender and school gender organization, as well as these two interaction terms, are of special interest here.

Because of the saliency afforded to the gender of the school head in other studies of male and female teachers' attitudes (e.g., Lee et al. 1993b), it seemed important to consider that factor as potentially important explanatory (or confounding) factor in this study. Unfortunately, school head gender is almost totally confounded with school gender organization in independent secondary schools. In this random sample, all 20 boys' schools were headed by males, as were almost all of the coeducational schools (18 of the 20). Only in girls' schools were there sufficient numbers of women heads (12 of the 20 girls' schools were headed by women). We investigated this issue, nevertheless.

Analysis Plan

Regression approach.—The common approach to investigations of gender differences in teacher control has used a ANCOVA framework. Typically, that approach involves the use of ordinary least squares (OLS) regression in a standard evaluation model, with a dummy-coded variable for the focus group (here, gender) and statistical adjustment for potentially confounding variables that tap differences in teacher and school characteristics. Our first set of analyses uses OLS regression, examined in a hierarchical format (Cohen and Cohen 1983). A statistically significant regression coefficient for gender, in a model that includes adjustment for experience differences, demonstrates gender differences in teacher control.

For preliminary examination of group mean differences in model variables among the six groups of interest here (male and female teachers in the three types of schools), we used one-way ANOVA, with contrasts—(1) between male and female teachers, (2) between single-sex and coeducational schools, and (3) between boys' and girls' schools. After refining our model with this technique, we ran three-step hierar-
chical regressions for both outcome variables. The first step introduced the teacher-level controls: gender, the number of years teaching at the present school, and the quadratic term for teaching experience. The second step introduced the school controls: whether the school is a boys' school or a girls' school (compared to a coeducational school), finishing school status, school selectivity, and high school size. The third step included the two interaction terms between teacher gender and school type.

Multilevel approach.—As our major research question involves estimating gender effects both within schools (i.e., male vs. female teachers in the same schools) and between schools (male and female teachers in single-sex schools of the two gender groupings vs. coeducational schools), we have used a statistical method that models these cross-level effects—namely, hierarchical linear modeling (HLM)—(Bryk and Raudenbush 1992). The regression approach described above attempts to control for these school differences by using school-level confounding variables and interaction terms between teacher- and school-level variables. The OLS approach combines the variability in control within schools with the variability between schools. The OLS method cannot account for the fact that groups of teachers work within the same school and thus have the same values on all school-level variables. Because of this failing, regression produces inappropriate standard errors for the estimates and also fails to account for the differential effect of school-level measures on teachers in the same school (Paterson 1991).

Fortunately, the HLM methodology is ideal for questions such as those addressed here (Bryk et al. 1988). As both explanation of the statistical basis of HLM (Bryk and Raudenbush 1992) and detailed expositions of the application of HLM to organizational analysis (e.g., Lee and Bryk 1989; Lee and Smith 1990, 1993) are available elsewhere, here we present only a very brief outline of this technique. The hierarchical analyses include models at two levels: within and between schools. The first stage estimates within-school parameters of interest ($\beta$ coefficients), and either these parameters may be set to vary randomly across schools or they may be introduced as control variables. Only between-school variation in the random parameters is investigated in the second stage of HLM. This step involves searching for between-school variables that show systematic relationships to the within-school random parameters that serve as dependent variables in the analyses. For each of the two measures of teacher influence, we investigate two random between-school dependent variables: (a) school mean influence and (b) the gender difference in teacher influence. The details of the statistical models for our HLM analyses are found
Gender Differences in Teachers' Control

in appendix C. Because both OLS and HLM provide uniquely informative results in this instance, we include results from analyses using both methodologies, with similar models.

Results

Descriptive Analysis

Table 1 presents sample sizes, means, and standard deviations for each dependent and independent variable used in the multivariate analyses, as well as means and sample sizes separately for female and male teachers in boys', girls', and coeducational schools. These group means are tested for the three contrasts described earlier. The variables are divided into two groups: those measured at the level of the individual teacher (table 1, top portion) and those measured between schools (table 1, bottom portion).

The bivariate tests among individual teachers suggest that female teachers perceive more influence over classroom policies than male teachers (contrast A), while teachers in single-sex schools appear to have less influence on school policies than those in coeducational schools (contrast B). Examination of the means suggests that female teachers in girls' schools perceive more influence over both classroom and school policies than they do in other schools, while male teachers perceive more influence in coeducational schools than in either boys' or girls' schools. Mean group differences on the independent variable measured among teachers (table 1, top portion) indicates that male teachers have more teaching experience than female teachers. Considering the group means on independent variables describing schools (table 1, bottom portion), we see that school-level differences are seldom statistically significant. Mean differences suggest that boys' schools rate higher in terms of finishing status, as well as being larger, than girls' schools. Coeducational schools are, on average, both somewhat more selective and somewhat less likely to be finishing schools than single-sex schools. These mean differences by school gender grouping among variables describing both teachers and schools support the importance of controlling for such differences in multivariate analyses.

Regression Models

Teachers' influence over classroom policies.—Results of the hierarchical regression on teacher control over classroom policies are shown in
### TABLE 1

<table>
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<tr>
<th>School Security</th>
<th>School Size</th>
<th>School Finishing Status</th>
<th>School-Level Variables</th>
</tr>
</thead>
</table>

**Note:** Standard deviations are in parentheses beneath means.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female vs. Male Teachers</th>
<th>Male vs. Female Teachers</th>
<th>Male vs. Boys</th>
<th>Male vs. Girls</th>
<th>Full Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b</strong></td>
<td>(n = 69)</td>
<td>(n = 70)</td>
<td>(n = 70)</td>
<td>(n = 70)</td>
<td>(n = 70)</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
</tr>
<tr>
<td></td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
</tr>
<tr>
<td></td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
<td>(96')</td>
</tr>
</tbody>
</table>

Means and standard deviations of teacher- and school-level variables.

School security: 
- Single-sex schools vs. coeducational schools; and C. boys' schools vs. girls' schools.

School size: 
- Single-sex schools vs. coeducational schools; and C. boys' schools vs. girls' schools.

School finishing status: 
- Single-sex schools vs. coeducational schools; and C. boys' schools vs. girls' schools.
table 2. We find that before and after controlling for teacher and school factors, females see teachers as exerting more control over the classroom than do males (\( \beta = .13 \)). The gender organization of the school, however, is not directly related to teacher control over classroom policies in this regression model (step 2); teachers in boys' schools and in girls' schools, on average, perceive themselves to have the same influence as teachers in coeducational schools. More experienced teachers (\( \beta = .31 \)) and those working in more selective (\( \beta = .12 \)) and smaller schools (\( \beta = -.21 \)) also see themselves with more control over the classroom.

Most important is the finding that the interaction term between teacher gender and girls' schools is significantly related to teacher influence (\( \beta = .10 \) in step 3). The significance of this effect indicates that school gender organization has a different effect on female than on male teachers' perceptions of their control over classroom policies. Computation of adjusted group means suggests that female teachers' perceived control is substantially greater than male teachers' in both girls' and boys' schools but only slightly different than male teachers' in coeducational schools. The results of this regression also show that teachers who have been teaching at their present school longer sense

---

### TABLE 2

**OLS Regression on Teachers' Control over Classroom Policies**

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>ANALYSIS STEPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td>Teacher gender (female)</td>
<td>.18***</td>
</tr>
<tr>
<td>Years at present school</td>
<td>.33***</td>
</tr>
<tr>
<td>(Years at school(^2))</td>
<td>-.23*</td>
</tr>
<tr>
<td>Boys' school</td>
<td>-.08</td>
</tr>
<tr>
<td>Girls' school</td>
<td>.02</td>
</tr>
<tr>
<td>Finishing school status</td>
<td>.05</td>
</tr>
<tr>
<td>School selectivity</td>
<td>.12**</td>
</tr>
<tr>
<td>School size</td>
<td>-.21***</td>
</tr>
<tr>
<td>Gender/boys' school interaction</td>
<td></td>
</tr>
<tr>
<td>Gender/girls' school interaction</td>
<td></td>
</tr>
<tr>
<td>Proportion of variance explained ((R^2))</td>
<td>.05***</td>
</tr>
</tbody>
</table>

---

**Note.** — All results on this table are presented as standardized regression coefficients (\(\beta\)).

* \(P < .05\).

** \(P < .01\).

*** \(P < .001\).
greater influence over classroom policies ($\beta = .31$), although the increase in perceived influence declines as the number of years increases, as indicated by the negative value of the regression coefficient for the quadratic term ($\beta = -.21$). We also find that teachers in smaller schools and also in highly selective schools tend to perceive greater influence in this domain. The proportion of explained variance by the model is modest ($R^2 = .10$), which is not surprising given that our purpose was not to maximize explanatory power.

*Teachers' influence over school policies.*—Results of the hierarchical regression on teachers' perceived control over school policies are shown in Table 3. After controlling for teacher and school factors, we see that male teachers perceive more control over school policies than do female teachers ($\beta = -.13$ in step 2). While our results in Table 2 show no main effect of school gender organization on teacher control over classroom policies, on this outcome measure we find that teachers in boys' schools perceive significantly less control over school policies than do their coeducational school counterparts ($\beta = -.17$).

Secondary findings from Table 3 indicate that teachers working in smaller ($\beta = -.19$) and more selective schools ($\beta = .25$) perceive greater influence over school policy, as well as over classroom policy.

### Table 3

**OLS Regression on Teachers' Control over School Policies**

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>ANALYSIS STEPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td>Teacher gender (female)</td>
<td>-.05</td>
</tr>
<tr>
<td>Years at present school</td>
<td>-.21*</td>
</tr>
<tr>
<td>(Years at school)$^2$</td>
<td>.19</td>
</tr>
<tr>
<td>Boys' school</td>
<td>-.17**</td>
</tr>
<tr>
<td>Girls' school</td>
<td>.03</td>
</tr>
<tr>
<td>Finishing school status</td>
<td>.10*</td>
</tr>
<tr>
<td>School selectivity</td>
<td>.25***</td>
</tr>
<tr>
<td>School size</td>
<td>-.19***</td>
</tr>
<tr>
<td>Gender/boys' school interaction</td>
<td>.11†</td>
</tr>
<tr>
<td>Gender/girls' school interaction</td>
<td>.22***</td>
</tr>
<tr>
<td>Proportion of variance explained ($R^2$)</td>
<td>.01</td>
</tr>
</tbody>
</table>

**Note.**—All results on this table are presented as standardized regression coefficients ($\beta$).

* $P < .10$.
* $P < .05$.
** $P < .01$.
*** $P < .001$. 

May 1995 277
Gender Differences in Teachers’ Control

Teachers at schools with higher finishing status perceive slightly greater influence than do teachers in nonfinishing schools. Surprisingly, we find that teaching experience is negatively related to influence \((\beta = -0.21 \text{ to } -0.29 \text{ in the three steps})\). Teachers with less experience perceive their teacher colleagues as having more control over school policies than do teachers who have been teaching at their current school longer \((\beta = -0.28)\), although the differences also level off over time \((\beta = 0.24)\).

The interaction terms from this analysis are particularly interesting. The interaction between teacher gender and teaching in a girls’ school \((\beta = 0.22 \text{ in step 3})\) is significant at the \(P < 0.001\) level, while the interaction between teacher gender and teaching at a boys’ school \((\beta = -0.11)\) is marginally significant \((P < 0.10)\) and in the opposite direction. The adjusted means on these variables, computed with the statistical controls included, show that in girls’ schools, female teachers perceive teachers as having greater influence over school policies than do male teachers in such schools, while at both boys’ and coeducational schools female teachers perceive less influence over policy. These differences are quite large. Although the proportion of explained variance in this model is also modest \((R^2 = 0.11)\), again our intention was not to fully explain variability in this measure.

Additional considerations in OLS analyses.—The potential importance of the gender of the school head in these settings led us to rerun our OLS regression models shown in tables 2 and 3, substituting school head gender (a single dummy variable coded 1 = female, 0 = male) in place of the two dummy variables tapping boys’ and girls’ school. We also included a single interaction term (school head gender by teacher gender). Because of the severe collinearity of school gender grouping and school head gender (described above), we were unable to include both measures in the same analysis. Results of the OLS models focusing on school head gender were less satisfactory than the results for gender grouping. Thus, we have concluded that the OLS results displayed here in tables 2 and 3 represent the most appropriate regression models to test the research questions investigated in this study. Reluctantly, we abandoned further investigations of school head gender with these data.

We also conducted further analysis to investigate the appropriateness of considering our dependent measures as variables describing individual teachers’ perceptions of controls, compared to their describing characteristics of schools. Our results suggested that there is some validity in both conceptualizations. Because the HLM methodology partitions the variability in these outcomes into its within-school and between-school components, and estimates parameters at both levels,
this multilevel approach seems most appropriate. We thus turn our attention to these analyses.

*Multilevel Models*

*Unconditional HLM models.*—The HLM statistical procedure was used to partition the total variance in the factors measuring teacher control over classroom and school policies into their within- and between-school components (Bryk and Raudenbush 1992). Between-school components were estimated with an HLM model without controls at either level. For classroom control, the intraclass correlation, or the proportion of total variance accounted for between schools, is 0.103. For school policy control this proportion is 0.163. While these results suggest that the majority of variability in these outcomes lies between teachers within schools, these between-school proportions are adequate to proceed with HLM models (refer to n. 2 for more detail about our interpretation of variance partition of the dependent measures).

The HLM models that include statistical controls only for within-school teacher characteristics are shown for the two outcomes in table 4. These partially unconditional modes are similar to step 2 in the regression models, except that systematic variation between schools is accounted for here. Findings from these analyses confirm our OLS findings in tables 2 and 3. That is, female teachers perceive significantly more control over classroom policies than their male counterparts, whereas there is no difference between male and female teachers in perceived control over school policies. For each outcome, there are two random variables ($\beta$'s)—mean control and the female control differential—that vary between schools. The fixed effects for teachers' experience are also similar to the OLS findings—positive for classroom control and negative for control over school policy.

*Full HLM models.*—The results of the full between-school HLM models for teacher control over both classroom and school policies are presented in table 5. The introduction of school-level variables in these models provides substantial insight into the characteristics of schools that affect teachers' perceived control. Results for the HLM model investigating teacher control over classroom policy are in the left column of table 5; those for school policy are in the right column. Analyses on mean teacher control are found in the top part of the table, and the female control differentials, below. Several effects are similar for the two outcomes, when measured by their adjusted mean values. One important finding is that teachers in both types of single-sex schools perceive significantly less control over either classroom or
TABLE 4

Hierarchical Linear Model (HLM) of Teacher Control: Within-School Model

<table>
<thead>
<tr>
<th></th>
<th>Control over Classroom Policy (γ Coefficient)</th>
<th>Control over School Policy (γ Coefficient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated effects:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean teacher control (β₀) mean</td>
<td>−.130</td>
<td>.043</td>
</tr>
<tr>
<td>Female control differential (β₁) mean</td>
<td>.342***</td>
<td>−.151</td>
</tr>
<tr>
<td>Fixed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years experience mean</td>
<td>.310**</td>
<td>−.208*</td>
</tr>
<tr>
<td>Quadratic term for experience mean</td>
<td>−.212*</td>
<td>.187*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-Square Tablea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONTROL OVER</td>
<td>CONTROL OVER</td>
</tr>
<tr>
<td></td>
<td>CLASSROOM POLICY</td>
<td>SCHOOL POLICY</td>
</tr>
<tr>
<td></td>
<td>Estimated Parameter Variance</td>
<td>df</td>
</tr>
<tr>
<td>Mean control</td>
<td>.103*</td>
<td>46b</td>
</tr>
<tr>
<td>Female differential</td>
<td>.076</td>
<td>46</td>
</tr>
<tr>
<td>Reliability of school-level random effects:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean control</td>
<td>.276</td>
<td></td>
</tr>
<tr>
<td>Female differential</td>
<td>.122</td>
<td></td>
</tr>
</tbody>
</table>

* P < .05.
** P < .01.
*** P < .001.

a The chi-square statistics reported in this table provide only approximate probability values because they are simple univariate tests which do not take into account the random effects in the model. These tests are quite conservative (Bryk and Raudenbush 1991).
b While there are 60 schools in the original analysis, in HLM, schools in which all surveyed teachers are of one gender are dropped from the analysis.

School policies than do their counterparts in coeducational schools, once experience and gender are held constant. Teachers in smaller and more selective schools feel more control of both types. Finishing school status is unrelated to either outcome.

The most interesting findings relating to our hypotheses are on the outcomes that tap the female control differential—multilevel ana-
TABLE 5

**Final HLM Model of Teacher Control**

<table>
<thead>
<tr>
<th>Random Effects</th>
<th>Classroom Policy Control (γ Coefficient)</th>
<th>School Policy Control (γ Coefficient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean teacher control:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>.111</td>
<td>.386***</td>
</tr>
<tr>
<td>Girls’ schools</td>
<td>-.395*</td>
<td>-.660**</td>
</tr>
<tr>
<td>Boys’ schools</td>
<td>-.288*</td>
<td>-.461**</td>
</tr>
<tr>
<td>Finishing status</td>
<td>.076</td>
<td>.111</td>
</tr>
<tr>
<td>Selectivity</td>
<td>.135*</td>
<td>.279***</td>
</tr>
<tr>
<td>Size</td>
<td>-.206**</td>
<td>-.196**</td>
</tr>
<tr>
<td>Female control differential:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-.018</td>
<td>-.432**</td>
</tr>
<tr>
<td>Girls’ schools</td>
<td>.602*</td>
<td>.722**</td>
</tr>
<tr>
<td>Boys’ schools</td>
<td>-.474*</td>
<td>-.053</td>
</tr>
</tbody>
</table>

* $p < .05$.
** $p < .01$.
*** $p < .001$.

logues to the OLS interaction terms. Given the codings (with female coded 1, male 0), female teachers are shown to perceive less control than their male counterparts on both outcomes—significantly so in the case of control over school policy (a γ coefficient of -.432). The major findings here relate to the effect of school gender organization on the female control differential. Women teachers who work in girls’ schools see themselves as having significantly more control of either type (compared to their male counterparts), indicated by the positive γ coefficients of .602 and .722 for girls’ schools on the two outcomes. This interpretation derives from the positive effects of the girls’ school contrast on the negative female differentials. Women teachers in boys’ schools also feel more control over their classrooms than do their male colleagues (γ = -.474).

*Summary of HLM results.*—It may be easier to understand the relationships among school gender organization, teacher gender, and teacher control when we examine adjusted group means for each of the six types of teachers adjusted for the control variables (three types of schools by two genders). These adjusted group means are shown in Table 6 and presented graphically in figures 1 and 2. Each outcome is discussed separately. Figure 1 indicates that male teachers perceive somewhat more control over classroom policies in coeducational
Gender Differences in Teachers’ Control

TABLE 6

Adjusted Means for Teachers by Gender and School Type

<table>
<thead>
<tr>
<th>SCHOOL TYPE</th>
<th>CLASSROOM POLICY CONTROL</th>
<th>SCHOOL POLICY CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Boys’ schools</td>
<td>-.177</td>
<td>.279</td>
</tr>
<tr>
<td>Girls’ schools</td>
<td>-.282</td>
<td>.302</td>
</tr>
<tr>
<td>Coed schools</td>
<td>.111</td>
<td>.093</td>
</tr>
</tbody>
</table>

Note.—These adjusted means were calculated from the $\gamma$ coefficients given in table 5. For example, the mean for male teachers in coeducational schools is simply the $\gamma$ coefficient for mean teacher control, while the mean for female teachers in girls’ schools is the sum of the $\gamma$ coefficients for mean teacher control, for the effects of girls’ schools on mean teacher control, for mean female control differential, and for the effects of girls’ schools on the female control differential.

schools than they do in single-sex schools, while female teachers perceive substantially more control in single-sex schools than they do in coeducational schools. In single-sex schools of both genders, female teachers perceive greater control than do male teachers, while in coeducational schools there is almost no difference in perceived control between male and female teachers.

Teachers’ influence over school policies.—The adjusted group means for this outcome in table 6 and figure 2 are rather different from the gender effects for control over classroom policies. Most obvious is the lack of control female teachers perceive over school policy. There is also a strong relationship between school gender grouping and the control differential between women and men teachers, but the pattern is less straightforward than for classroom control. Male teachers in coeducational schools perceive themselves to have substantially more influence over school policies than those in single-sex schools and also more control than the female teachers in these same schools. In girls’ schools, however, the trend is reversed—female teachers perceive more influence than male teachers in the same types of schools. The gender gap in girls’ schools compared to boys’ and coeducational schools favors females, whereas males are comparatively favored in the other two school types. Another finding is that teachers in single-sex schools of either gender type tend to have less influence on school policies than those in coeducational schools. Male teachers in coeducational schools appear to see themselves with particularly strong control, while female teachers in boys’ schools and male teachers in girls’ schools appear to feel particularly disenfranchised in the area of school policy.

282 American Journal of Education
Fig. 1. Teachers' perceived control over classroom policies based on full HLM model.
Fig. 2. — Teachers’ perceived control over school policies based on full HLM model.
Discussion

*Gender Differences in School Control*

Coeducational schools are currently the norm in the United States. These schools are touted as serving the needs of both genders equally. Yet, previous research has indicated that coeducational schools may be socializing students into gender-biased roles (Epstein 1988; Hansot and Tyack 1988; Martin 1990; Rossi 1987; Tyack and Hansot 1990). At least some of this socialization may derive from students seeing male teachers with comparatively more influence than female teachers in school policy decisions, or from seeing many more males in the principal’s office (Lee et al. 1993b). We find in this study that female teachers in coeducational independent schools see themselves with substantially less power to affect school policy than their male counterparts.

Helping to explain our finding that female teachers perceive less influence in the area of school policy is other research that suggests that this disparity may be due to obstacles and environmental factors that limit women’s participation. Much of the literature addressing the dominance of men in organizational positions of power posits that women choose not to participate and not to compete for positions of power because they are more concerned with home and family responsibilities (Acker 1983). If choice were, in fact, the reason that women teachers do not perceive control over school policies, then we would expect to see the same pattern in each school type: men perceiving more influence than women. But, this is not what we find. Women teaching in girls’ schools see themselves with more control over school policies than do men in girls’ schools, the reverse of the pattern in boys’ schools and coeducational schools. It appears that some organizational characteristics of girls’ schools may lead women teachers to feel empowered to participate in policy decisions. We interpret these findings as suggesting that organizational factors rather than personal choice enforce the male dominance in control over school policy—especially in coeducational schools.

*Single-Sex Schools and Empowerment* 7

*Girls’ schools.*—What organizational differences between girls’ and coeducational schools contribute to the differential perceptions of control between male and female teachers in these schools? One of these
Gender Differences in Teachers' Control

factors is clearly the student body itself. At girls' schools the organizational focus is on females. This emphasis alone may empower female teachers to sense more influence in the area of school policy. However, there are also female students at coeducational schools (many more, in fact); and the presence of male teachers in almost equal proportions (59 percent) should not, in theory, empower male teachers substantially more than female teachers. The literature suggests that a single-sex student body may facilitate the empowerment of female teachers by de-emphasizing sex roles. Geile (1978) points out that sex differentiation in a male-dominated culture inherently leads to the devaluation of the female in relation to the male. Single-sex schools appear less prone to differentiate by sex than coeducational schools and thus may put fewer obstacles in the way of female participation in school decision making.

Organizational features of girls' schools other than student body composition also may contribute to the empowerment of women. Although girls' schools in our study were smaller and less selective than coeducational schools, the fact that we controlled for these differences means they cannot explain the gender differences in organizational influence among school types. Two other contributing factors may be the gender of the school head and a more participatory organizational environment. In this study, unfortunately, we were unable to investigate the potentially alternative explanation of our findings by the gender of the school head because of serious collinearity with gender grouping (see n. 5 for more detail). As explained earlier, in our stratified random samples of schools women school heads were virtually absent, except in girls' schools. The power of school head gender as an alternative explanation is suggested by findings from another study, which demonstrated that women teachers feel more empowered to affect school policy when working under female principals (Lee et al. 1993b). Women working for women in girls' schools, as well as teaching only girls, could be the major explanatory factors here.

The empowerment of female teachers working under female school heads may not be due solely to the gender of the leader but rather may result from differences in the environments that these administrators create. Eagly and Johnson (1990), in their meta-analysis of gender difference in leadership, found that women leaders tend to be more democratic and participative in their styles, while men are more autocratic or directive. Research in schools has found that female principals tend to spend more time than their male counterparts checking out classrooms and wandering the hallways (Shakeshaft 1987). Other research found that girls' schools are especially integrative and communal organizations (Marks 1994). Beyond the gender of students, princi-
pals, and other teachers, such organizational features may create environments that enhance female teachers' perceived control. These organizational features are not dependent on having women at the helm, however. This issue deserves more attention in future research on this topic.

Equally important are the feelings of disenfranchisement experienced by male teachers who work in girls' schools, in both classroom and school policy matters. This finding is supported by research describing male and female teachers' attitudes about their work in secondary schools headed by men and women principals (Lee et al. 1993b). Although the schools in that study were mostly public schools and almost all coeducational, some had women principals. In the study described here, less than a quarter of the schools were headed by women, and those women principals were confined almost exclusively to girls' schools. Both studies' results suggest that male high school teachers are uncomfortable working in environments defined by females (perhaps the word "emasculated" applies here). Gendered working environments generally seem to take their toll on workers of the less representative gender. Our results suggest that gender-based disenfranchisement, while more common for women teachers, is not confined to that group.

Boys' schools.—The gender gap in influence over school policies is roughly equivalent (and large) in boys' and coeducational schools; however, these schools differ in the relationship between teacher gender and control over classroom policies. While male teachers in boys' schools perceive substantially less control over classroom policies than those in coeducational schools, female teachers in boys' schools perceive more influence over classroom policies than those in coeducational schools. This seems counterintuitive. Boys' schools are focused on the education of boys, and they have a substantially higher proportion of male teachers than do coeducational schools. Both of these characteristics would seem to create an environment particularly conducive to the empowerment of male teachers. However, figure 1 indicates that this is not the case. A possible explanation is that boys' schools may be more hierarchical or bureaucratic organizations (given their all-male leadership)—which results in less teacher involvement for everyone. Less potential for control also means less potential for differences between men and women teachers.

While the nonparticipative structure of boys' schools may constrain gender differences, the characteristics of the teachers that decide to teach in boys' schools may also be important here. Our analyses have controlled for teaching experience. We also have investigated the effects of whether or not the teachers attended private or single-sex
schools as students, so we know that these differences are not causing the differentials. Yet, the few female teachers who choose to teach in boys' schools (only 13 percent in our sample) may differ from their coeducational and girls' school counterparts in other ways. These teachers must realize when they enter the boys' school environment that they are in a male world. The female teachers who choose to teach in boys' schools may have prepared themselves to compete aggressively for organizational control. This is not the case for female teachers entering coeducational schools, who may be more surprised and discouraged by the gender differences in organizational control and by the work environment that favors the participation of men. Finally, boys' schools may actually emphasize gender differences less than coeducational schools, encouraging their students to pursue non-traditional as well as traditional gender roles. Reduced gender differentiation can act to enfranchise or empower these women teachers.

Implications of Gender Differences in School Organizational Influence

We suggest that the findings of this study—that in independent coeducational and boys' schools female teachers feel less empowered than male teachers to influence school policy, while in girls' schools they see themselves as more empowered—have implications for schools in the public sector. The disenfranchisement of women in any organization (actual or perceived) is problematic because of the potential benefits for the organization of empowered workers, including increased worker satisfaction and possibly increased productivity (Alutto and Belasco 1973; Brofenbrenner 1976; Corcoran 1990). Yet, gender equity in influence is particularly important in all types of schools—public, private, single-sex, or coeducational. Less empowered female teachers probably provide weak role models for female students, reinforcing sex-differentiated social and professional roles in students' minds. Moreover, gender equity in teachers' organizational control is especially relevant in view of the current reform efforts aimed at providing public school teachers with input into organizational decisions (Bacharak et al. 1986; Shedd and Bacharak 1991)—an influence that independent school teachers tend to possess already. Unless attention is directed to such a difficulty, as teachers have more say in organizational decisions, we believe that the differential in influence between men and women could actually widen. This would increase gender stratification and provide even poorer role models for students.
Additional Findings

In addition to the findings discussed above, our analyses produced some surprising results. First, we found that while male teachers in boys’ schools perceive greater teacher influence over school policies than female teachers in boys’ schools, female teachers perceive greater influence than male teachers in policies affecting their classrooms (see fig. 1). Second, we found that teachers who have been teaching at their present school for fewer years perceive more influence over school policies than do teachers with more experience (see table 4). In addition, we found that school size and school selectivity are both strong predictors of teacher influence over policies of the classroom and of the school as a whole (table 5). Teachers in smaller and more selective schools tend to perceive greater influence in both domains of school policy.

Experience and organizational influence.—We were also surprised to find that teachers with less experience perceive themselves and their colleagues to have more influence over school policies. This odd finding may be due to the wording of the questions on which our measure is based. Respondents were asked how much influence they believed teachers in their school had in each of a number of decision areas, not how much influence they had themselves. Less experienced teachers may believe their peers are more powerful than they in fact are (wishful thinking), or they may be given some influence over policy when they first arrive (misleadingly). Such responsibilities may be more than they had expected given their novice status. Along with gaining experience, teachers also may begin to realize that even though they are involved in many committees and asked their views by the administration, their actual control over policy is limited. This possibility was substantiated in interviews with some experienced teachers in these schools. These teachers’ comments included: “The school sort of pretends that teachers are involved,” and, “We are rotten at integrating new teachers. We mislead them; they think they will have more power than they get to implement change.”

Size and selectivity.—Consistent findings in this study suggest that teachers are empowered in smaller and more selective schools. These findings are not surprising, and they support our hypothesized reason for including these control variables in our analyses. Several recent studies describe similar positive effects for small school size (e.g., Bryk et al. 1993; Lee and Smith 1993). Another review paper (Lee et al. 1993a) provides evidence that “small is better” for a number of educational outcomes. Why teachers would consider themselves to have more influence in more selective schools is less straightforward. It
Gender Differences in Teachers' Control

seems reasonable that a more favorable academic mix is a desirable context for teaching (also documented by Lee et al. [1993a]), and that empowerment may be one aspect of a general positive feeling on the part of teachers working in more selective academic environments.

In summary, the current educational reform movement in the United States advocates increased decision-making powers for teachers—over almost every aspect of school life. We worry that such increased influence could actually result in increasing disparities between men and women teachers in their influence, and particularly in more influence for male teachers. This study demonstrates that these disparities (at least in a single direction) are not inevitable. Women teaching in girls' schools perceive greater influence over school policy than do men. It seems reasonable to conclude that some of the organizational factors of girls' schools that empower women teachers may also facilitate female empowerment in other school types—for example, more women in leadership positions, more communal and integrative organizations, a more participative leadership style. Previous research has indicated that participatory and democratic styles of leadership encourage women's participation. What we advocate is a gender-equitable school environment—for teachers and for students. School organizational features which diminish gender differences in every aspect of school life are important to identify and implement.

Appendix A
Description of Variables

Dependent Measures

The tables below describe the dependent measures used in this study.

**TABLE A1**

Control over Classroom Policy*

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Factor Loading</th>
<th>Item Wording</th>
</tr>
</thead>
<tbody>
<tr>
<td>T42B1</td>
<td>.66</td>
<td>How much influence do you think teachers have on establishing curriculum for the school?</td>
</tr>
<tr>
<td>T42F1</td>
<td>.83</td>
<td>How much influence do you think teachers have on selecting content of courses?</td>
</tr>
<tr>
<td>T42G1</td>
<td>.82</td>
<td>How much influence do you think teachers have on selecting teaching methods?</td>
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</table>
### Table A1 (Continued)

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Factor Loading</th>
<th>Item Wording</th>
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</thead>
<tbody>
<tr>
<td>T42J1</td>
<td>.70</td>
<td>How much influence do you think teachers have on determining grading practices?</td>
<td></td>
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</tbody>
</table>

**Note.**—All items were coded on a seven-point scale (1 = no influence, 7 = great deal of influence).

*Standardized composite variable, coded low = little influence and high = much influence; mean = 0.00, SD = 1.00, $\alpha = .79$, eigenvalue = 11.6, and percent of variance explained = 11.6%.

### Table A2

**Control over School Policy**

<table>
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<th>Item Name</th>
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<tbody>
<tr>
<td>T37N</td>
<td>.67</td>
<td>How well is your school functioning in involving teachers in school decision making and policy development?</td>
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<tr>
<td>T42A1</td>
<td>.58</td>
<td>How much influence do you think teachers have on hiring, evaluating and dismissing teachers?</td>
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<tr>
<td>T42C1</td>
<td>.45</td>
<td>How much influence do you think teachers have on scheduling and placing students?</td>
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<td>T42D1</td>
<td>.58</td>
<td>How much influence do you think teachers have on determining and allocating school budget?</td>
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<td>T42E1</td>
<td>.61</td>
<td>How much influence do you think teachers have on setting school goals and objectives?</td>
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<td>T42H1</td>
<td>.49</td>
<td>How much influence do you think teachers have on setting discipline policy?</td>
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<tr>
<td>T42I1</td>
<td>.66</td>
<td>How much influence do you think teachers have on setting admissions policy?</td>
<td></td>
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<tr>
<td>T42K1</td>
<td>.62</td>
<td>How much influence do you think teachers have on suspending, probationing or expelling a student?</td>
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<tr>
<td>T46T</td>
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<td>How well does this statement describe your school: Teachers are involved in decision making on a regular basis?</td>
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<td>T46Z</td>
<td>.64</td>
<td>How well does this statement describe your school: Teachers have little influence on the development of policies and practices at this school?</td>
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<tr>
<td>T47E</td>
<td>.72</td>
<td>To what extent do you agree with the statement: Teachers are involved in making decisions that affect them?</td>
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</table>

**Note.**—The T37N item was coded on a five-point scale (1 = outstanding, 5 = poor), T42 items were coded on a seven-point scale (1 = no influence, 7 = great deal of influence), T46 items were coded on a seven-point scale (1 = very true of my school, 7 = not true at all of my school), and T47E item was coded on a five-point scale (1 = strongly agree, 5 = strongly disagree).

*Standardized composite variable, coded low = little influence and high = much influence; mean = 0.00, SD = 1.00, $\alpha = .87$, eigenvalue = 5.82, and percent of variance explained = 38.8%.

May 1995 291
Gender Differences in Teachers' Control

Teacher Characteristics

Gender:
What is your sex? (coded female = 1, male = -1)
Number of female teachers = 254; number of male teachers = 364

Years at present school:
How many years prior to this present year have you been on the staff at your present school?
Mean = 7.62; SD = 7.80

School Characteristics

School type:
Boys' school: coded boys' = 1, girls' = 0, coeducational = -1
Girls' school: coded boys' = 0, girls' = 1, coeducational = -1
Percentage of female teachers: Boys' schools = 14.29, girls' schools = 72.78, coeducational schools = 42.79

Finishing status:
Standardized composite variable, coded low = less finishing and high = more finishing
Mean = 0.10; SD = 0.92

Selectivity:
Standardized composite variable, coded low = low selectivity and high = high selectivity
Mean = 0.17; SD = 1.00

Size:
Number of students in the high school
Mean = 259.21; SD = 131.02

Variables Considered but Not Included in the Final Model

Teacher attended private school:
Have you ever attended a private school (not Catholic)? (coded yes = 1, no = 0)
Number who attended private schools = 188; number who did not = 344

Teacher attended single-sex school:
Have you ever attended a single-sex school? (coded yes = 1, no = 0)
Number who attended single-sex schools = 195; number who did not = 344

Subject area teacher teaches:
In which curricular area is most of your teaching done? (coded math = 1, English = 0)
Number of math teachers = 293; number of English teachers = 319

Years school head has been at school:
Coded as the natural log of the years that the school head has been head of school
Mean years = 7.90; SD of years = 6.25
Mean of log = 1.68; SD of log = .96

Boarding school or day school:
Coded boarding school = 1, day school = 0.
Number of teachers at boarding schools = 230; number at day schools = 399
ANOVA: A, female vs. male; B, single-sex schools vs. coed schools; C, boys schools vs. girls schools.

Note—standard deviations for full sample are in parentheses following means. Mean differences were tested as contrasts under one-way

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School policy control:

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Classroom policy control:

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Means on Component Variables of Outcome Factors

Table B1

Appendix B
Appendix C
Hierarchical Linear Models (HLM) of Gender and Teacher Influence

Our within-school models, which are identical at the outset for our two dependent measures, are as follows:

\[
\text{Control} = \beta_{0j} + \beta_{1j}(\text{gender}) + \beta_{2j}(\text{experience}) + \beta_{3j}(\text{quadratic experience}) + e_{ij}.
\]

These parameters may be interpreted as follows:
- \(\beta_{0j} = \) Mean control for teachers in school \(j\)
- \(\beta_{1j} = \) Female control differential, compared to males, in school \(j\)
- \(\beta_{2j} = \) The degree to which control is related to total number of years of teaching experience in school \(j\)
- \(\beta_{3j} = \) The degree to which control are related to the square of years experience in school \(j\)

Under this model, the within-school parameters that we wish to model in the between-school HLM models are mean control differences (\(\beta_{0j}\)) and the female control differentials (\(\beta_{1j}\)) for each control measure. These parameters are thus allowed to vary randomly across schools. The other within-school parameters—teaching experience (\(\beta_{2j}\)) and the quadratic term for teaching experience (\(\beta_{3j}\))—are treated as covariates in the same sense as in the regression models shown in tables 2 and 3. These variables are called “fixed” in HLM terminology. In essence, each within-school analysis is adjusted for the variables measuring experience, but between-school variation in these parameters is not of interest. While it is clear that these covariates are related to teacher control, their relationships are not of interest here.

The results of this model, the unconditional model in HLM terminology, are highly relevant to determination of gender differences in control. However, another model is investigated which includes systematic variation across schools in school organizational characteristics (\(\gamma\) coefficients). For example, are gender differences in teacher control restricted to boys’ schools or to girls’ schools? This question suggests adjustment for the gender organization of the school. Are gender differences restricted to, or more prevalent in, large schools than in small schools? This suggests adjustment for school size. The full HLM models investigate these questions. The major between-school model that we use to investigate such questions is as follows:

\[
\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{girls’ school})_j + \gamma_{12}(\text{boys’ school})_j + \gamma_{13}(\text{finishing status})_j + \gamma_{14}(\text{selectivity})_j + \gamma_{15}(\text{size})_j + U_{ij}.
\]

These parameters may be interpreted as follows:
- \(\beta_{1j} = \) The average female control differential
- \(\gamma_{10} = \) The intercept term for female control differential in coeducational schools, adjusted for other school variables
- \(\gamma_{11} = \) The residual girls’ school female control differential, compared to boys’ schools and coeducational schools
- \(\gamma_{12} = \) The residual boys’ school female control differential, compared to girls’ schools and coeducational schools
- \(\gamma_{13} = \) The effect of the finishing status on the female control differential

294 American Journal of Education
\( \gamma_{14} = \) The effect of the school selectivity on the female control differential
\( \gamma_{15} = \) The effect of the school size on the female control differential

With the same HLM analyses, we also investigate the two measures of average control (\( \beta_0 \)), adjusted for gender and experience.

Notes

This article uses data collected in the National Study of Gender Grouping in Independent Secondary Schools. We are grateful for support from the Esther A. and Joseph Klingenstein Fund of New York and the Office of the Vice President for Research of the University of Michigan through a Rackham Faculty Research Grant to the first author. An earlier version of the paper was presented at the annual meeting of the American Sociological Association, Pittsburgh, Pennsylvania, August 1992. Correspondence should be addressed to Valerie E. Lee, School of Education, University of Michigan, Ann Arbor, Michigan 48109.

1. Title IX of the Educational Amendments Act of 1972 (PL 92–318) prohibits sexual discrimination in educational programs that receive federal funds.

2. The wording of the items included in the two dependent measures of teacher influence is identical to survey items from the Administrator Teacher Survey of High School and Beyond, sponsored by the National Center for Education Statistics (Moles 1988). These same items (or composites made from them) have been used in several recent studies investigating the effects of teacher influence or control (also called "empowerment"; see, e.g., Lee et al. 1991; Newmann et al. 1989) both within and between schools. A recent study of the influence of teacher empowerment on student achievement (Gamoran et al. 1994) also employed similarly worded items, although that study used data from the Longitudinal Study of American Youth to construct their empowerment measures. We acknowledge that the items query individual teachers' perceptions of their colleagues' influence. However, when we partitioned the variability of our composite measures (with HLM), we found that the large majority of variance in both composites (over 80 percent) lies between teachers within schools, rather than between schools. Thus, we felt it was justifiable to treat these measures as individual teachers' perceptions of their own control.

3. School selectivity includes (1) the average of students' entrance score at the beginning of high school (using students' scores from tests typically required by these schools—either the Secondary School Admissions Test [SSAT] or the Educational Records Bureau Test [ERB], which we equated statistically through regression methods on a sample of students who had scores on both tests), (2) the proportion of ninth grade applicants accepted (reversed), (3) the proportion of transfers accepted at the beginning of high school (reversed), (4) the proportion of total high school enrollment comprised of transfers after tenth grade (reversed), (5) the school head's evaluation of the importance of academic criteria (test scores, academic record) in admission decisions, and (6) whether over 10 percent of entering high school students required remedial math, English, or reading (mean, reversed). The logic of including multiple measures was to broaden the notion of selectivity beyond test scores; however, the first two components are dominant.

May 1995 295
Gender Differences in Teachers' Control

4. The variable contains multiple components: aggregates from a series of items tapping students' reasons for choosing their schools—social reputation, location, facilities, whether friends attend. Other components include aggregates of factors tapping students' judgments about activities they find important to their futures (leisure time, marriage, children). A final component taps school averages for sex-role stereotyping (higher = finishing). More details on these measures are provided in Lee and Marks (1992). It should be noted that finishing status is not confined to, or even especially common in, girls' schools.

5. In regression models on teacher control over both classroom policies and school policies, the main effect of school gender head was not statistically significant (β's of −.04 and −.03, respectively). Moreover, both regression models had lower proportions of explained variance ($R^2 = .08$ in both instances). In the regression model investigating teacher control over school policy, however, the interaction term in step 3 was negative and significant (β = −.14), although the main effect of gender disappeared (β = −.01). These results suggest that male teachers perceive less control over policy when working in schools headed by females (likely to be girls' schools), as well as the reverse. Although these results are suggestive of those found by Lee et al. (1993b), because of the severe collinearity between school head gender and school gender grouping we admit to being unable to untangle the interpretations.

6. To further test whether our dependent measures are more appropriately interpreted as measures describing teachers' individual perceptions of control or as measures describing the schools' granting of control to teachers as a group, we reran the regression models shown in tables 2 and 3 with the outcomes recomputed as individual teachers' deviations from the school means (i.e., we systematically eliminated school-by-school differences in these outcomes). Quite reasonably, effects of teacher-level variables (gender, experience) were almost identical, but the effects of school-level variables vanished. Because the HLM models are most appropriate in partitioning variability in our outcomes, we rely on those models to estimate school-level effects.

7. The dependent measures in this study have tapped teachers' perceptions of their influence over classroom and school policies (and that of their colleagues). Thus, these measures tap teachers' attitudes and are not objective measures of the actual amount of influence or power over these decisions in schools. As mentioned earlier, we have used these measures in a manner similar to those of other researchers (e.g., Gamoran et al. 1994; Lee et al. 1991). Because others have interpreted these variables as tapping the construct of "empowerment," we follow their lead and shift our discussion in the direction of empowerment. Of course, these are subjective measures of this construct.

References


Lee, Loeb, and Marks


Gender Differences in Teachers’ Control


May 1995
Gender Differences in Teachers' Control


