CHAPTER 1

Educate a Woman and You Educate a Race

In January 2005, Harvard University president Lawrence H. Summers provoked a nationwide scandal when he suggested in a lecture at the National Bureau of Economic Research Conference that the dearth of women in science and engineering resulted from innate differences between the intellectual abilities of men and women. He also argued that women's traditional roles as wives and mothers conflicted with meeting the research expectations for faculty at Harvard and other elite universities. A protest letter from Harvard faculty charged that Summers's remarks sent "mixed signals" to the "high achieving women" at Harvard and other institutions of higher education.[1]

Since our nation's inception, ambivalence has existed about women's ability and need to pursue higher education. The political rhetoric of the Founding Fathers provided a major incentive for educating women. According to the ideology of republican motherhood, women played a critical role in ensuring that their children—particularly their sons—would acquire the civic virtue and intellectual skills vital to the health of the new nation.[2] Religious movements also provided a powerful justification for women's higher education. During the early nineteenth century, a nationwide religious revival known as the Second Great Awakening swept through the country and was especially popular among the nation's young people. Although few evangelical denominations granted women the full range of rights and responsibilities within the church, women's work was

considered central to the larger cause of world salvation. Most denominations believed that Christian family values could not be taught to "heathens" unless male missionaries brought with them educated and pious wives. Women missionaries were also the only ones who could reach potential female converts in countries that observed strict sexual segregation. Women played a key role in religious work at home as well. By the mid–nineteenth century, women congregants far outnumbered men, and the missionary and outreach work of these organizations depended heavily on female voluntarism. The need to train women for missionary work both at home and abroad led to the creation of female seminaries such as Mount Holyoke in western Massachusetts and Troy Female Seminary in New York.[3]

As a result of these political and religious trends, educational institutions for girls and young women expanded greatly in the nineteenth century, thereby making U.S. women the most literate in the world. Although the curriculum at female institutions was quite rigorous for the time, they did not match the standards or the status of the elite men's colleges. Nevertheless, medical experts warned of the dangers that education posed to women's health. Numerous books and articles lamented the unhygienic conditions that prevailed at the majority of female institutions. For example, an article in the December 1837 *Boston Medical and Surgical Journal* exclaimed, "There is something radically wrong in the present system of education among young ladies. Their physical condition does not receive from parents or teachers that consideration which it deserves."[4] These concerns prompted female academies and seminaries to pay especially close attention to student health. At Mount Holyoke, for example, students were required to observe a strict schedule of prayer, study, meals, and exercise. The student handbook required all students to extinguish their lights at ten in the evening and leave their doors open so that the faculty could watch over them.[5]

In the 1870s, medical arguments against women's education were strengthened by the work of Harvard medical professor Dr. Edward Hammond Clarke, who warned of the dangers of higher education to the female brain and body in his best-selling book, *Sex in Education; or, A Fair Chance for the Girls* (1873). Drawing on the principle of the conservation of energy and notions of human evolution promoted by Charles Darwin and other naturalists, Clarke argued that the brain withdrew physical energy from the rest of the body during intellectual activities. Although Clarke acknowledged that such a mind-body linkage existed in both sexes, he contended that women's brains were less evolved than those of men. Further-

more, the unique characteristics of the female reproductive system made women more vulnerable to mental and physical breakdown. Energy depletion was especially treacherous during puberty, when the reproductive organs were still maturing. Even after puberty, Clarke claimed that women remained at risk for reproductive disorders and nervous ailments because of the disabilities caused by menstruation. Women who ignored these basic facts of nature by pursuing an education risked nervous collapse and sterility.[6]

These views did not go unchallenged. Prominent women reformers published scathing attacks on Clarke's work in the popular and medical press. The most widely read challenge to *Sex in Education* came from Dr. Mary Putnam Jacobi, a professor at the Women's Medical College of the New York Infirmary for Women and Children. In her landmark study, *The Question of Rest for Women during Menstruation* (1877), Jacobi published the results of a survey of the menstrual health of more than two hundred of her female patients. The responses she received led her to conclude, "There is nothing in the nature of menstruation to imply the necessity, or even the desirability, of rest, for women."[7] Even Clarke's colleagues recognized the importance of Jacobi's research, awarding her Harvard's prestigious Boylston Medical Prize in 1877.[8]

Jacobi was not alone in using science to undermine Clarke's claims, nor did this criticism come solely from female physicians and women's rights activists. Among the most noted male critics of Clarke's work was Nathan Allen, a widely respected member of the Massachusetts medical profession and a central figure in the commonwealth's nascent public health movement.[9] In his studies of population decline among prominent New England families, Allen observed "unmistakable signs of physical degeneracy" as well as other "startling facts" such as fewer marriages, lower birthrates, and growing numbers of divorces in this elite social group.[10] Unlike Clarke, however, Allen was part of a reform cohort who believed that all young people, not just women, were victims of an educational system that developed their minds at the expense of their bodies. In a lecture before the fiftieth annual meeting of the American Institute of Instruction in 1879, Allen argued that "if young men must depend for success in life upon the 'vigor of the body'" as well as the mind, then the same was true of women, who would go on to be "in the broadest and fullest sense the 'educators of the race.'"[11]

Despite these challenges, Clarke's ideas proved remarkably tenacious and seemed to be supported by the most advanced scientific evidence of the day. A large lay and scientific audience read Clarke's book, which sparked

widespread discussion and criticism. The book proved so popular that it went through seventeen editions in thirteen years. Clarke's ideas captured the attention of Americans already anxious about conditions of modern life that they believed were undermining the health of the nation's young people. This feeling was particularly acute within the nation's growing cities, where crowded living conditions, sedentary work and school habits, and the hustle and bustle of daily urban life were thought to be creating a nation of flabby, nervous, mentally unstable, and physically diseased citizens. This growing sense of "dis-ease" in the body politic led to increased attention on the health of the physical body. Women were the primary target of nineteenth-century concerns about health and the future of the white race, as Clarke and other medical authorities alleged that female anatomy and physiology made women especially vulnerable to illness.[12]

Thus, despite the need to educate the race by educating mothers, the notion that women should receive a college education remained controversial. These anxieties about the fitness of the female body shaped the design of women's colleges and the female divisions of coeducational institutions. The earliest college health programs emerged to address concerns about the impact of higher education on the female body. These initiatives for women later served as models for further developments in college student health.

Better Than Gentleman's Schools of Kindred Grade

In 1865, wealthy industrialist Matthew Vassar announced his intention to endow "a College for young women which shall be to them, what Yale and Harvard are to young men."[13] Unlike most men of the day, Vassar and other founders of the college were progressive on the issue of women's intellectual abilities, believing that women's brains were no different from those of men. Thus, women deserved an equally demanding education. Clarke's jeremiad against women's higher education challenged this optimism because one of the six case studies mentioned in the book was allegedly a Vassar student. "Miss D" had entered the college in good health at the age of fourteen. As a result of a taxing academic schedule that matched that of a man, Miss D's health steadily declined during her junior and senior years at Vassar. She then graduated before nineteen "with fair honors and a poor physique." Clarke called this case yet "another text for the oft-repeated sermon on the delicacy of American girls." Rather than observing the laws of nature, the reproductive development is "shoved out

of sight like a disgrace" in the ambition "to get what is popularly called an education."[14]

Vassar's resident physician, Alida C. Avery, quickly came to the college's defense. In an impassioned letter to Clarke, Avery argued for the unfairness of assuming from one case that ill health in women college students resulted from advanced study. Yet Avery also underscored the zealous precautions she and her colleagues at Vassar took to prevent tragedies like that of Miss D. The college's rural setting and campus buildings were designed to ensure complete control over students' minds and bodies. The college employed a "lady principal" who closely supervised the personal habits of the students. Because there were few effective medical therapies at this time, medical experts and laypersons alike believed that the best way to preserve health was to prevent diseases before they started. Popular health manuals at this time espoused theories that suggested that disease resulted from a combination of constitutional irregularities inherited from one's ancestors, poor living habits, and an unsanitary environment. Of these three factors, health advice writers considered individual behavior to be the most malleable. They therefore encouraged their readers to engage in regular exercise, get adequate rest, eat sensible diets, and abstain from alcohol, tobacco, and other stimulating substances.[15]

Physical education was central to protecting student health at Vassar, since medical opinion at this time stated that physical fitness was the best way to prevent disease and debility. The first student handbook for the college noted that physical education is "*fundamental* to all the rest."[16] Vassar employed the exercise system promoted by Boston health reformer and physical education instructor Dio Lewis. Lewis's system of "light gymnastics," based on similar programs in Sweden and Germany, involved calisthenics with light dumbbells and other apparatus. Lewis's textbook, *New Gymnastics for Men, Women, and Children* (1862) went through ten editions and became a standard text for many schools, colleges, and homes. According to Lewis, moderate physical exercise as well as other personal habits such as avoidance of alcohol, regular bathing, good diet, and adequate rest and relaxation were remedies for the neurasthenia, or nervous exhaustion, that plagued students and other sedentary "brain workers" of the mid–nineteenth century. Lewis was also an ardent supporter of women's rights, claiming that regular exercise and dress reform were vital to improving the physical and social status of American women.[17]

Likewise, Avery claimed that her primary aim was "to combine opportunity for serious mental activity with physical training and individual free-

dom from tiresome restraint" imposed by corsets and other restrictive clothing. Avery hoped "vigor of head and heart and body will be the happy result."[18] Indeed, she asserted that the regimen at Vassar not only preserved but actually improved the students' health. In her practice at the college, Avery observed numerous students "who came to us weak, indifferent, listless, full of morbid whims and uncontrolled caprices of mind and body." After spending four years in Vassar's "bracing atmosphere of happy, sustained industry," these sickly girls gained "such an impetus toward real health that they forgot aches and discontents, and went home ready and eager to do their share in the world's work."[19]

Of course, some students often found these restrictions and requirements excessive. One student complained in 1868 that the "only trouble here is they won't let us study enough. . . . They are afraid we shall break down." Nevertheless, this student realized that the "reputation of the college is at stake, for the question is can girls get a college degree without injuring their health?"[20]

Such concerns were not limited to Vassar College. Because the other Seven Sisters were founded in the midst of the controversy surrounding Clarke's book, administrators at these newer women's colleges had little choice but to pay close attention to student bodies. Like the officials at Vassar, other schools' founders and administrators believed that a woman's education should be as thorough and demanding as a man's but also realized that extra provisions should be made for women students because of their fragile health. Martha Carey Thomas, president of Bryn Mawr, acknowledged that when the college first opened in the 1880s, she was uncertain "whether women's health could stand the strain of education. We were haunted in those days by the clanging chains of that gloomy little specter, Dr. Edward Clarke's *Sex in Education*."[21] President Alice Freeman Palmer of Wellesley College (founded in 1875) claimed that while "the chief business of a man's college . . . is to give instruction of the best available quality in as many subjects as possible," the aim of the woman's college was "to do all this but . . . also provide for its students a home within its own walls" and accept the "responsibility not only of the present health of its students, but also in large degree of their physical power in the future."[22]

Administrators, physicians, and physical educators at the women's colleges founded after 1875 looked for new ways to assure that their women students were both well educated and able-bodied. In 1875, Smith College introduced a new system of student housing designed to emulate the late-Victorian home. Smith's founders also believed that a cottage system would control the spread of epidemic diseases that swept through larger dormito-

ries at this time. Noting the improved healthfulness of this new housing system, a writer for the *Ladies' Home Journal* observed, "Nowhere did I find girls more bright, healthful, and comfortable than at Smith College."[23] Eager to compete for students, officials at the older residential women's colleges imitated the housing innovations made in Northampton.[24]

One sees this concern about protecting female bodies even at Radcliffe, where the founders originally opposed any buildings or regulations that would replicate what trustees believed to be the "unnatural" and "convent-like" conditions of the residential women's colleges. Nevertheless, early annual reports made certain to mention that the health of the young ladies was excellent and in some cases had actually improved. Although there were no dormitories, the college required students to live in houses approved by a committee of women appointed by the Radcliffe Corporation. Students could not board with families where Harvard students lived, although the college allowed Radcliffe students to reside in the same boardinghouses as Harvard faculty. The trustees argued that placing students in families was particularly important for younger and less mature students, for it provided them the "protections of home" and ensured "regularity of life and propriety of behavior."[25]

Radcliffe officials closely adhered to the advice of renowned Philadelphia neurologist S. Weir Mitchell, who claimed that many of the female health problems he observed in his practice resulted from the mental and physical strain of higher education. In an address to the graduating class of Radcliffe College, Mitchell stated that while he did not entirely oppose collegiate education for women, he also believed that "if the higher education or the college life in any way, body or mind, unfits women to be good wives and mothers there had better be none of it." Mitchell praised women's colleges that employed physicians to "prevent disaster by due regulation of work, play, diet, exercise, and the inhibition of mind-labor when physiology and reason forbid it."[26] Following this example, Radcliffe College constructed a lunchroom and a gymnasium for students in the 1890s and hired Dr. Henry P. Walcott as medical adviser in 1893.[27] By 1898, Radcliffe graduates realized that the lack of campus housing was working against the college. That year, the alumnae and the Annex '95 club began to raise money for a residence hall system "carefully limited in size, healthful, tasteful, economical and bearing the prestige of college ownership," which would offer all Radcliffe students, regardless of income, the "essentials, physical, aesthetic and social as well as intellectual, of a true College education." The desire to reassure parents from outside the Boston area that their daughters would be adequately protected while in

Cambridge eventually led to the construction of Bertram Hall, Radcliffe's first dormitory, in 1905.[28]

To demonstrate the effectiveness of their programs on the female body, physicians and physical educators at the women's colleges drew on the new science of anthropometry, or the measurement of human growth. The systematic study of human characteristics grew partly out of the work of the eighteenth-century French encyclopedists, who incorporated the study of human morphology and racial variation into their studies of the natural world. French scientists alleged that the American environment stunted the growth of its inhabitants. As evidence, the French gave reports of the supposed inferior stature and morphology of Native Americans as well as African slaves and white settlers. Eager to disprove these erroneous claims, early American naturalists, including Thomas Jefferson and Benjamin Franklin, collected data that showed that American plants, animals, and humans were equal or even superior to their European counterparts. The work of Belgian mathematician Lambert A. J. Quetelet also had a central role in developing the science of anthropometry. Originally trained as an astronomer, Quetelet extended the principles of mathematics to the study of human beings and social institutions. He hoped that by discerning the laws of human behavior he could help solve such intractable social problems as crime, suicide, and poverty. Quetelet's notion of the "average man" gained great currency both in Europe and the United States, and his book, *A Treatise on Man and the Development of His Faculties* (1835), became the standard work for other researchers in the field.[29]

Physicians and physical educators at the women's colleges extended these observations, finding that American college women were healthier, taller, and stronger than women from the same ethnic and economic background who did not attend college. Supporters claimed that by producing healthier, more physically fit, and better-educated mothers, women's colleges would make the white race that much stronger and wiser.[30] The most prominent proponent of this idea that physical education for women contributed to race betterment was Dudley Allen Sargent, who directed the Hemenway Gymnasium at Radcliffe. Sargent observed that the intellectual advancement of the white upper classes had led to larger head size and argued that "unless the woman's body is perfectly developed to meet this condition, it means her immolation and the deterioration of the race." Sargent further claimed that physical education could remedy this problem by enlarging women's pelvises and ensuring that their bodies were fit for reproduction.[31] He also drew on the work of noted neurologist Edward Seguin, who believed that "feeblemindedness" in children and nervous ail-

ments in adults were caused by a degeneration of the nervous system that could be alleviated by training the body's muscles and nerves. Seguin's work convinced Sargent of the importance of physical activity in education. To prove his theories, Sargent set up a hygienic institute in New York City, designed to build the bodies of men, women, and children "who were naturally weak, or who had run down in the race of human endeavor."[32]

Sargent believed that foreign systems of gymnastics, such as those espoused by Lewis, were insufficient for combating the stress and strain of modern life. Instead, he used data compiled from his own anthropometric studies to devise appliances and exercise systems that ensured symmetrical development of the body. The Sargent system consisted of more than fifty tests of size and strength of different parts of the body, conducted with tape measures, spring dynameters, and other devices designed and built by Sargent and his staff. After gathering data on more than ten thousand women, Sargent prepared standardized charts against which he measured individual students. For those who did not meet these standards, Sargent designed a personalized exercise program aimed at correcting specific physical defects and improving overall physical fitness.[33]

Sargent promoted his system in numerous scientific and popular articles and set up a normal school to train male and female teachers in his methods. The other women's colleges were so impressed with Sargent's work at Radcliffe that they soon hired his female normal school graduates to implement similar programs on their campuses. These women physical educators duplicated Sargent's findings. At Wellesley, Lucille Eaton Hill and her assistant, M. Anna Wood, collected statistics on nearly two thousand students that demonstrated the positive impact of exercise on the female physique. This data became a central piece of Wellesley's promotional literature. An article in the *American Review of Reviews* claimed that Wellesley led the way in making college a "place where the health of young women is sedulously and scientifically guarded, and where her physical strength and well-being are systematically developed."[34] President Anna J. MacKeag of Wilson College for Women in Chambersburg, Pennsylvania, observed that a "more vigorous and active body of women than those of our colleges it would be hard to find anywhere," given the favorable conditions present at the women's colleges.[35] Students also testified to the benefits of the carefully supervised physical exercise they received in college. For example, Sophia Foster Richardson, a Vassar alumna, said she owed her good health since graduation to the "regularity of college life and to vigorous play" and could therefore could not understand the perspective of those who opposed women's higher education.[36]

In 1885, the Association of College Alumnae, forerunner of the American Association of University Women, published a survey claiming that the college environment was more conducive to female health than other occupations. Although 19.58 percent of the alumnae respondents complained of a deterioration of health while in college, 21.13 reported improvement. Annie G. Howes, chair of the committee in charge of compiling the statistics, exclaimed that she was "confident that a higher education for women is in harmony with that vast law of the survival of the fittest which guides the activities of the dim future."[37]

Amherst College physician and hygiene professor Dr. Edward Hitchcock Jr. echoed these opinions. After examining a comparison of mortality statistics of Mount Holyoke graduates with those of male colleges made in the late 1860s, Hitchcock found that the mortality rate among male college students, excluding Civil War casualties, was higher than that of female students. Hitchcock concluded that women's colleges not only instilled high levels of scholarship and religious culture but also produced a "health-influence [that] holds out better than in gentlemen's schools of kindred grade."[38]

Yet the controversy over female higher education precipitated by Clarke's book was far from over. Indeed, Clarke's supporters received additional ammunition with the publication of G. Stanley Hall's epic 1904 study on adolescence. "That woman can do many things as well as man does not prove that she ought to do the same things, or that man-made ways are the best for her," Hall argued. Although he did not completely oppose female higher education, he was alarmed by data indicating that graduates of women's colleges were less likely to marry and have children than those who had not attended college. Hall concluded that the health of the woman was "even more important for the welfare of the race than that of man." Institutions charged with educating girls in their teens and twenties, "when the period most favorable to motherhood begins," should emulate the "cult of the goddess Hygeia" by requiring students to follow the latest recommendations in nutrition, sleep, exercise, and other advances in "health culture."[39] These warnings about the dangers of higher education on the female body would shape coeducational institutions just as they had the women's colleges before them.

Women's Health and the Limits of Coeducation

Between 1860 and 1900, higher education opportunities for women gained ground with the tremendous growth of public schools. The need to edu-

cate children in western settlements, those of recent immigrants, and freed slaves created a desperate need for a cheap and plentiful teaching force. Educational reformers such as Catharine Beecher reiterated the doctrine of republican motherhood, proclaiming that educating children was the "true and noble profession of a woman." Moreover, school districts favored female teachers because women would accept lower salaries than would men. As new occupational opportunities opened for men in business, industry, and other professions, public school teaching evolved from a job of last resort for men to a profession for which women were considered eminently suited. To meet the need for trained teachers, states created normal schools that provided a shorter period of training at a lower cost than did private colleges.[40]

Other higher education options for women expanded as well. Elite private colleges and universities such as Cornell and the University of Chicago also opened to women, although reluctantly in many cases. State-funded education grew tremendously following the Morrill Land Grant Act (1862), which made public lands available to endow colleges for training in agriculture and the mechanical arts. Although the act did not require that women be admitted to the new state institutions, it also did not forbid their entrance. Some state universities resisted coeducation, while others admitted women rather than using additional funds to create separate female institutions. Elite male colleges remained closed to women, but some created coordinate female colleges such as Barnard (Columbia), Douglas (Rutgers), and Pembroke (Brown). By 1900, the United States had fifty-six thousand female college students, a fivefold increase since the end of the Civil War.[41]

Like the older women's colleges, these newer institutions were forced to address concerns about the impact of higher education on the female body. Amenities for women students frequently were prompted by economic concerns. For example, when Cornell first opened, the women's dormitory, Sage College, did not have a chaperone or matron during its first years of operation. By 1879, the university was in desperate economic circumstances as male enrollment declined and female enrollment failed to close the gap. Because of its nondenominational status, Cornell constantly faced accusations of being a "godless institution," and parents preferred sending their children to institutions that would instill proper Christian (usually Protestant) values. Administrators speculated that parents were especially reluctant to send their daughters to Cornell because of the "freedom and potential of moral dangers" at Sage College. Therefore, during the late nineteenth century, the university continually looked for ways to

improve its popular image. Despite protests from women students about the "iron boarding house rules" that would accompany supervision, the board of trustees hired a matron to oversee the students in Sage. The board also made "every possible provision to ensure the health of [Sage's] inhabitants" by providing them with comfortable beds, nourishing food, well-ventilated rooms, modern bathroom facilities with indoor plumbing, and mandatory lectures on physiology and hygiene. In 1884, the university declared that all women students must reside in the dormitory. Women who did not wish to comply with this requirement were dismissed from the university, since the trustees believed it would be better for women to be forgo a college education than to "undermine their constitutions" through advanced study.[42]

This transition was not unique to Cornell: by the early twentieth century, many other private coeducational institutions had begun regulating female students' living arrangements as a way of reassuring parents that their daughters' physical and moral welfare would be safeguarded. Small coeducational institutions such as Grinnell and Carleton built residence halls where women could be segregated from male students.[43] The University of Chicago provided dormitories for women when it first opened in 1892. When dean of women Marion Talbot discovered that most students could not afford to reside on campus, she urged the university to protect women from the city's physical and social ills by creating a housing department to inspect the physical condition of boardinghouses and, more importantly, make sure that male and female students did not share the same residences. Talbot also strictly policed student behavior, insisting that women uphold respectable standards of dress, conduct, and manners. She also forbade smoking, drinking, and other "dangerous habits" in the women's dormitories. In 1915, a generous gift from Laverne Noyes enabled the university to construct Ida Noyes Hall, which contained clubrooms, a gymnasium, a swimming pool, and lunchrooms, all of which helped the university more closely supervise the health habits of female students.[44]

Other elite colleges were unwilling to provide services for girls and young women in loco parentis, instead using concerns about the effects of higher education on female health to limit or deny women's admission. For example, at the University of Pennsylvania, women students were permitted to be "special students" in the Towne Scientific School beginning in the 1870s, but few were allowed to study in the other graduate and professional schools. After the opening of the School of Education in 1914, women were allowed to receive bachelor's degrees in the normal program

in education. Women were excluded from the undergraduate college until 1933, partly because of fears about how education would affect their health but also because administrators wanted to preserve the university's prestige relative to other all-male colleges.[45]

State institutions did not have the same leeway. As "people's colleges" funded by state tax dollars, the public normal schools and land-grant colleges founded in the mid- to late nineteenth century had to take all qualified applicants. Most states found it too costly to build separate colleges for women. In addition, the desperate need for public school teachers in the years following the Civil War made rejection of female applicants impractical.[46]

Single-sex public institutions were more common in the southeastern states, as were separate institutions for African Americans. Indeed, women's educational opportunities in the South actually declined after the Civil War, as state governments in the former Confederacy lacked sufficient funds to rebuild public colleges damaged or destroyed by warfare. Even before the war, advanced study was limited to daughters of the wealthy, planter elite, and higher education for southern women was intended to prepare them for their roles as decorative plantation wives and mothers. The expansion of public schooling during Reconstruction as well as a need to provide "respectable" employment for widows and daughters of Confederate soldiers led to the creation of public normal schools in many southeastern states. Yet these institutions were poorly funded and offered a shorter course of study than the four-year state research and technical universities, which remained closed to women.[47]

Like private universities, these public institutions had to contend with the warnings about the negative impact of higher education on female health. This was especially true at state normal schools, which realized that the health of future teachers was essential for their larger mission of improving school hygiene.[48] This concern with the health of female normal school students is illustrated by the history of Framingham State Normal School. Established in Lexington in 1839 and moved to Framingham in 1853, the normal school was the first publicly funded teacher training institution in the Commonwealth of Massachusetts. Since the female students came from the surrounding area, school officials did not believe it necessary to provide housing for them. Yet Framingham employed a female physician, Mary J. Studley, to oversee student health. Following her graduation from Framingham State in 1852, Studley worked as a public school teacher in Massachusetts. She obtained a medical degree from the New York Infirmary for Women and Children in 1872 and was appointed

resident physician and teacher of natural sciences at Framingham in 1877. Like her counterparts at the women's colleges, Studley believed that the best way to alleviate the nervous strain caused by advanced study was a "well-developed muscular system." Studley found that the majority of young women schoolteachers she observed were "notably deficient" in this area. She therefore believed that only women who developed sufficient strength and physical stamina for enduring the rigors of the classroom should be allowed to become teachers.[49]

Studley's reputation at Framingham State soon led to requests from both students and their mothers for written copies of the lectures she gave at the normal school. The resulting volume, *What Our Girls Ought to Know* (1878), was extremely popular and went through several editions. In her introduction, Studley observed that her experience with Framingham students "convinces me that they do not willfully sin against their bodies, but are sadly ignorant of the laws which govern them." While instruction in hygiene traditionally had been a mother's duty, "it is a lamentable fact that the present generation of mothers is woefully deficient in the ability to do so." Indeed, she claimed that mothers were "glad to secure the aid of an educated lady physician in supplementing their home work."[50]

Other institutions of higher education were also eager to employ "lady physicians" to protect the female student body. The position of college physician and/or professor of hygiene and physiology soon became one of the few professional opportunities for female physicians in the late nineteenth and early twentieth centuries.[51] The earliest faculty positions for women at coeducational institutions typically involved supervising physical training and/or teaching courses in hygiene.[52] Administrative opportunities for professional women also evolved out of the duties of women physicians appointed to oversee the health of and morality of female students at coeducational institutions. At the University of California at Berkeley, the first female administrator was Dr. Mary Ritter, who served as both physician and unofficial overseer of campus life for women undergraduates.[53]

Like their predecessors at the women's colleges, physicians at coeducational institutions conducted anthropometric studies of their students to confirm that college life, and physical education in particular, improved rather than damaged women's bodies. Among the most notable studies were those conducted by Dr. Clelia Duel Mosher, physician and professor in the department of hygiene at Stanford University. Mosher used her experiences as a child and young woman to illustrate the importance of exercise and physiological knowledge for women students. Mosher had been so sickly as a child that her father attempted to keep her out of col-

lege. Nevertheless, she found the financial resources and physical strength to attend Wellesley College. Although ill health and the death of her father forced her to drop out after two years, she went on to obtain degrees in zoology and physiology from the University of Wisconsin and was among the first women graduates of the Johns Hopkins University Medical School. After receiving her M.D. in 1900, Mosher worked as an intern in gynecology. In 1910, finding most other employment options closed to her, Mosher accepted an appointment as assistant professor of personal hygiene, medical adviser for women, and director of the Roble Gymnasium at Stanford.[54]

In addition to her official duties, Mosher continued her interest in anatomy and physiology and invented a device called a schematograph to study posture and changes in bodily proportions.[55] She observed from results gathered over a period of thirty years that the heights, weights, and overall physical health of female students had improved over the course of her career at Stanford. "The racial as well as economic importance of these changes, which point to a more fully developed and more perfectly functioning type of woman, can hardly be overestimated," wrote Mosher in a 1921 article.[56] Mosher also gathered data on her students' menstrual periods, noting that while some women had severe menstrual cramps, for most women menstruation was in no way a disabling condition. She also believed that exercise could greatly alleviate menstrual pain and developed a system of exercises aimed at reducing the duration of and discomfort associated with periods.[57] Some students complained about doing their daily "moshers" and were dismayed that they could no longer use their menstrual periods to get out of gymnasium exercises or other classes. Others considered Mosher's system a godsend. One student told her, "You should be canonized for inventing these menstrual exercises."[58] Another student wrote to Mosher that her freshman hygiene class was "invaluable" as "my whole life has been enriched by it."[59]

Mosher popularized her results and their implications in her books, *Health and the Woman Movement* (1916) and *Woman's Physical Freedom* (1923). Both books undercut the physiological arguments that had been used to deny women access to higher education. Mosher declared that the college woman approached the "old Greek ideal of physical perfection" and was the "mother of finer sons and daughters, the promise of a stronger race. This same achievement is now possible for all women," Mosher promised, as long as they followed the same laws of hygiene imposed on women in college.[60]

Prominent female academics hailed Mosher's work as being as signifi-

cant as that of Mary Putnam Jacobi a generation earlier.[61] Mosher's studies also deeply impressed some male scientists. Havelock Ellis, for example, wrote to her that he was "greatly interested in your preliminary note of investigations on normal menstruation as your observations belong to a class of evidence which I am very anxious to obtain."[62] Even Hall grudgingly admitted, "I wish very much that your work had come to my notice in season to be noted in the *Adolescence*. It seems to me very highly desirable that you should continue and complete these studies, for this seems to me one of the most important of all topics for hygiene, education and for the future of the race."[63]

Yet heightened attention to women's bodies caused significant disparities between male and female campus life. The history of women's experiences at the University of Michigan shows how campus policies created a segregated college experience for women. When women students first were admitted to Michigan in 1870, they, like male students, were allowed to live off campus in boardinghouses without any sort of supervision or provision for health. As Cornell and other coeducational institutions began to provide health supervision and regulations to women students in loco parentis, however, Michigan found that it had to do likewise to compete for the best students. In 1895, University of Michigan president James Burrill Angell appointed Michigan graduate Eliza Mosher (M.D. 1875) to the position of dean of women, which included oversight of the gymnasium, physical education, and courses in hygiene and sanitary science. Although women and men continued to share boardinghouses off campus, only women were subject to parietals, and women faced discipline for entertaining men in their rooms. In the late 1890s, a group of faculty wives formed the Michigan League to ensure that certain approved boardinghouses rented only to women and set aside public parlors for male visitors. By 1900, the league began a campaign to build women's dormitories that would ensure even more administrative oversight over female students' well-being.[64]

The University of California was slower to institute similar protections for women students, largely because the institution was not fully committed to coeducation. The university did not build dormitories for either women or men until the 1920s. Because boardinghouse keepers frequently doubted the respectability of single females seeking housing on their own, many preferred to rent their rooms exclusively to men. Consequently, men found it easier to locate lodging close to campus, and women had no choice but to endure long commutes. This situation compelled some families to move to Berkeley rather than allow their daughters to make the daily trek

across the bay. Not until the appointment of Phoebe Apperson Hearst as the first woman regent of the University of California in 1891 did the campus lives of Berkeley women receive more serious attention, although it frequently resulted from the students' activism. In 1898, the regents permitted Hearst to fund the part-time appointment of Dr. Mary Bennett Ritter as physician to women students and lecturer in hygiene.[65] Ritter had previously been serving as an informal health adviser to female students. Her husband, William, was head of Berkeley's zoology department, and as a prominent faculty wife and one of the few female physicians in the area, Ritter became a trusted adviser for many female students. When the director of Harmon Gymnasium refused to allow women students to use the facility without first obtaining medical examinations, Ritter offered to do so free of charge on top of her thriving private practice. Ritter's appointment as a part-time faculty member allowed her to keep regular office hours for students every morning, "where girls could consult me about their ills of body, mind or 'hearts.'" Ritter also found that "many of the young women were seriously interested in their physical well-being and wished to know more about themselves and about home-making." These requests led Ritter to offer lectures in home sanitation and personal hygiene, which eventually became part of a mandatory hygiene course for first-year women. Since Ritter was often the only woman on the campus to whom the girls could turn for any personal advice, demand for both medical services and individual help grew tremendously. Students frequently asked Ritter for assistance in locating affordable room and board. Ritter found "malnutrition common among them and knew that many were skimping too severely." Ritter also persuaded Berkeley president Benjamin Ide Wheeler to allow her to inspect local boardinghouses and prevent students from living in residences that did not comply with the city's sanitary regulations by connecting to public water and sewage systems. Ritter added that regular inspection would also ensure that men and women did not reside in the same houses. Ritter recalled that during her years at Berkeley, "on a few occasions hasty marriages were arranged after too ardent love-making, but the standard of morality was very high." When Ritter reported to Hearst that many female students still lived in rather dismal circumstances, Hearst agreed to pay for Ritter to visit eastern women's colleges and coeducational institutions such as Cornell, Chicago, and Wisconsin to see how these institutions oversaw student life on and off campus. Upon her return to Berkeley in the summer of 1900, Ritter persuaded Hearst to furnish women's clubhouses to be run like the Smith cottage system, providing "respectable, attractive housing for women, without the

social elitism of sororities." When Hearst left Berkeley in 1900, she donated her home to the university to be used as a women's gymnasium, thereby enabling the university to make physical education mandatory for all female students.[66]

Colleges and universities for African American women also designed their campuses to protect female student health. Prior to the Civil War, few higher education options existed for African Americans, male or female. Oberlin College took a huge financial risk when it decided to include African American students among its first entering class in 1833. This commitment to racial equality alienated all but the staunchest abolitionists, as most parents and students preferred institutions that did not permit mixing of the races.[67] Only two historically black colleges—Lincoln University in Pennsylvania and Wilberforce University in Ohio—were founded prior to the Civil War. Discrimination continued after the war, as northern colleges admitted only a handful of African Americans and southern institutions remained closed to blacks altogether. During Reconstruction, various denominational groups and freedman's aid societies established secondary schools, normal schools, and colleges for blacks in the former Confederacy. Funding from the federal government and northern philanthropists such as Julius Rosenwald and John D. Rockefeller also helped fuel the growth of black educational institutions in the United States. Although most of these institutions focused on the model of industrial education advocated by Booker T. Washington, a few had higher aspirations to educate an elite who would help uplift the standing of the black race as a whole. Although the cost of college remained beyond the means of most black families, the number of African Americans attending high school and college increased significantly between 1870 and 1915.[68]

Some African Americans, like whites, nonetheless remained ambivalent about whether black women should receive the same education as men. When Livingstone College opened in Salisbury, North Carolina, in 1880, some African American parents felt the institution went too far in its attempts to provide equal educational opportunities for men and women. These parents were also concerned about the propriety of coeducation. Instead, they adopted white gender norms of this period, preferring to send their daughters to single-sex religious institutions. Livingstone officials responded to these concerns by severely curtailing socialization between male and female students.[69]

Segregation in housing and medical care prompted black women's colleges to build dormitories and infirmaries for their students. Administrators were especially concerned with protecting female students, given the

long history of black women's sexual victimization by white men. Officials at Spelman College not only provided a healthful environment but also ensured that students adopted respectable middle-class health habits. By following advice on hygiene and deportment, Spelman students "thus displayed not only better health but also a more refined, orderly, Christian way of life."[70]

Thus, to paraphrase Hitchcock's remarks about the women's colleges, when it came to matters of health, the female divisions of coeducational institutions as well as institutions for female African American students were better than white men's institutions of similar quality. This did not mean that white men's institutions were unenlightened; rather, the focus on protecting women's bodies and minds reflected widely held beliefs about the physical and mental characteristics of the "weaker sex." Even the most progressive educators of the day tended to reinforce this model of female anatomy and physiology, which tied the fitness of women's bodies and minds to the future of the race. Concerns about race suicide and racial degeneration would surface in discussions about the health of college men, serving to justify the development of hygiene programs aimed at building their bodies along with their brains.