

WOMEN IN NONTRADITIONAL INDUSTRY:  
THE CASE OF STEEL IN CIUDAD  
GUAYANA, VENEZUELA

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Abstract: This paper recounts the experience of the incorporation of women into heavy industry during the employment boom of 1974-1979 in Ciudad Guayana and the decline in female employment in the years following the boom. The first and second sections of the paper outline the features of female incorporation at a specialty steel plant and at the state-owned steel mill which, combined, account for over 70 percent of all manufacturing employment in the city. The third section presents the characteristics of the discrimination to which two groups of women, laborers and engineers, were subjected. The fourth and final section analyzes the effects of discrimination on worker behavior and suggests that both male discriminatory behavior and female coping mechanisms are not only the result of the structural factors of power, opportunity, and numbers identified by Kanter in her classic 1977 study, but are also associated with factors of class, age, and culture. Thus, it is necessary to include considerations of both structural factors and individual or personality characteristics to develop corrective programs in a particular organization or culture.

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The 1975-1979 boom in the Venezuelan economy was the direct result of rapid increases in petroleum revenues and large international loans taken out by the federal government and private investors for an ambitious investment program. Venezuela "sowed petroleum," that is, used oil income to promote other industries. In one way or another, whether through broad-reaching social welfare and community development programs or through direct employment, all sectors of the population benefitted from the boom. Women were no exception. In fact, the growth of female labor in both traditional and nontraditional activities<sup>1</sup> is an outstanding feature of the boom years (Cordiplan 1982; Valecillos 1982).

This paper recounts the experience of the incorporation of women into heavy industry during the boom, specifically in and around Ciudad Guayana, site of the large-scale Venezuelan Guayana Development Program. The core of this program is a large steel complex, two aluminum plants, an alumina plant, an iron ore mining concern, a bauxite mining concern, a forestry project, a large hydroelectric project, and the construction of a new city. In 1960, the program was designated by the federal government as the "key to the development of Venezuela" and, as such, has traditionally received about 20% of all federal investment funds.

Several factors contributed to female employment in nontraditional activities in Guayana and throughout Venezuela in the late 1970s. These included the coverage given to the United Nations International Women's Year in 1975, the increasing numbers of female university graduates in science and engineering, and women's involvement in political activities, unions and legal reforms. An underlying factor is the public recognition of the high proportion of female-headed households in Venezuela.<sup>2</sup> In the case of Ciudad Guayana, the new, planned industrial city founded in 1961, by far the most important factor in creating female employment in nontraditional jobs was the rapid expansion of salaried employment following an upsurge in investment revenues directed to the program.

The incorporation of women in nontraditional activities in Ciudad Guayana took place between 1975 and 1979 as the result of a labor crisis brought on by the sudden increase in construction projects and the expansion of production in several large-scale industrial projects, including steel and aluminum. During that period, Ciudad Guayana's population was growing from approximately 213,500 in late 1974 to 331,000 by late 1979. This is a total growth of 55 percent in five years. Employment in construction increased from approximately 4,400 persons in November 1974 to about 25,000 in mid-1979, its peak. Employment in manufacturing rose from slightly over 16,000 in late 1974 to over 27,000 by mid-1979.<sup>3</sup> This represents a total increase of 465 percent for construction and 69 percent for manufacturing, much higher than the total growth of 45 percent for the rest of the labor force. About 70 percent of all manufacturing employment in 1979 corresponded to the steel mill. If construction workers on site at the Guri

Dam project are added to the above figures, the total employment in construction in and around Ciudad Guayana approached 34,000 in 1979. By 1979, Ciudad Guayana's labor force numbered 93,000.

Between 1980 and 1983, as part of a broader study of the division of labor in Ciudad Guayana (Rakowski 1984a, 1984b), I carried out a case study of the incorporation of women into a privately-owned specialty steel plant and the larger state-owned steel mill. My primary interest was the use of women as a reserve labor force during the boom. During the case study, however, I became convinced that these two experiences--as recounted by women who lived through them and by the male managers who evaluated their performance--reflect universal features of the structural and personal discrimination women must overcome in order to survive in large organizations such as that described by Kanter (1977). At the same time, these experiences point clearly to the importance of class and personality differences as women develop strategies for coping with discrimination.

The descriptive analysis that follows is based primarily on interviews I conducted in 1981 with male managers, female engineers, and female laborers at the state-owned mill and at a smaller specialty steel plant that subcontracts work for the mill. In the case of the mill, the Personnel Department supplied additional data on worker performance and basic personnel data for both male and female workers on the daily (wage) and monthly (salaried) payrolls from 1980 and 1981.

The case of the specialty steel plant is presented first, followed by a discussion of the state-owned mill.<sup>4</sup> The third and final sections present conclusions about the similarities between these experiences and those described by Kanter (1977) and by Deaux and Ellman (1983) regarding structural barriers and discrimination and the coping strategies developed by women.

### The Specialty Steel Plant

In 1976, the privately-owned specialty steel plant employed approximately 400 persons of which 280 were laborers in production. That year, management hired 75 women who had been selected from some 200 applicants who answered radio and newspaper ads for female personnel. These women represented 27 percent of all laborers engaged in direct steel production.

By December 1981, only three of the 75 women remained and all three had transferred out of direct production and into the drafting office. Two of the women were interviewed at that time (the third was on pregnancy leave), as was the manager and an outside consultant (both male) who had helped design and implement the "experiment with women."

Personnel data records for the period were closed and there were no evaluations of the experience. This aspect of the study, therefore, relied

on respondent recall. Individual interviews were conducted first with a group interview at a later date. All interviews produced what the four respondents agreed was a fairly accurate sketch of the "experiment" with only few differences between men and women regarding why it failed.

Management's reasons for hiring women at this plant in 1976 were typical of those in the area at that time: shortages of male labor and a belief that women would be more docile. (Ciudad Guayana's labor unions are noted for their militancy.) But management anticipated some problems peculiar to female labor which they wanted to deal with directly. These included:

- a) Marriage--the risk of training single women for a short work life (estimated at two years),
- b) Pregnancy leave and absenteeism for child care for married women or those in consensual unions, or
- c) Menstrual problems and absenteeism at monthly intervals.

Management reviewed similar experiences from Japan, Spain, and Germany and decided they could eliminate at least one of these problems--pregnancy and child care absenteeism--by hiring only single women. Only three of the 75 women who were hired in 1976 had children when they entered. They had been recommended by supervisors at the plant as responsible heads of household. Two of these mothers and only one single woman are the three who remain at the plant in 1981.

Specifically, management looked for young, single women who also had some responsibility for supporting their families in the expectation this would offset the lack of maturity and experience.<sup>5</sup> Women were chosen according to their level of education and their personality (ascertained through an interview) and then separated into two groups. Those who had completed primary school spent six weeks as paid trainees and became welders. Women who had completed high school spent twelve weeks as paid trainees and became cortadoras--precision cutters.<sup>6</sup> All three women who remained at the plant in 1981 had been precision cutters.

Women's size and strength were not taken into account in the hiring process, but were considered when assigning them specific tasks.

The male manager said that, much to his surprise, problems related to the menstrual cycle never arose. (He had been opposed to hiring women for precisely this reason.) Overall, female absenteeism was significantly lower than that of men. But problems of enamoramiento (courtship and seduction) and pregnancy arose almost immediately. Enamoramiento created confrontations between men and unwilling women on the job or led to "fooling around" in the plant. All four respondents blamed this phenomenon on "hotblooded young males for whom sex was primordial" and "inexperienced young girls" who allowed the men to take physical liberties and "didn't know how to command respect." The women interviewed were quick to point out that

the problem was greater among the welders, whose lower level of education and "culture" handicapped dealing with men. The men interviewed agreed this was probably true although they had tended to generalize the problem to all women. When several women worked together a group, these problems tended to disappear. The problems also lessened with time and as men became more accustomed to having female co-workers.

At the time of the "experiment," the plant had serious problems with the labor union and union leaders were quick to use the women as pawns in its conflicts with management. For instance, although most pregnant women did not request a change of job, union leaders used pregnancy as a pretext to challenge authority, insisting that the weight of the welding torch and positions assumed by workers would be dangerous to the fetus. As a result, although women were hired in part to diminish labor conflict, they were drawn into that conflict by the union.

As their children were born, mothers began to leave work voluntarily. Other women simply became disenchanted with the work and left or were fired for poor performance. About half the women were fired outright in the second year, together with about one-fourth of the men. These were individuals who had participated in a production slowdown ordered by the union. Several women transferred to the technical office or into secretarial positions offered them by management.

In general, the two men interviewed felt the women were less productive than the men. In the first few months, female productivity was high but declined almost immediately and supervisors began to ask to have the women removed from their crews. In a few cases, supervisors complained that the women distracted the men, but the manager interviewed insisted the main problem was low productivity and the resistance of women to working the night shift.<sup>7</sup>

The women interviewed provided a slightly different version. They agreed on the details of the mass firing of men and women and the sexual problems that arose. But they believed that most women were more productive than the average man because they "showed more interest in their work." They agreed that there were some "lazy" women just as there were "lazy" men and some women took advantage of their gender to get special treatment. But they also observed men "forcing" help on unwilling women out of a sense of chivalry. They believed that, as a group, women were more motivated and this motivation was a key element in productivity.

These women were of the opinion that men reacted to the hiring of women with jealousy--"their territory was being invaded." At first, the insults and verbal harrassment were widespread, but they diminished with time. Later, when the women proved to be good workers, jealousy and rivalry reoccurred among some men who felt their "masculinity threatened." At the same time, other men developed a new-found respect for women as workers. Immediate co-workers almost never caused problems. Men from other crews were the source of most conflicts and attempts to embarrass the women.<sup>8</sup>

But some men were confused about whether or not to be chivalrous on the job. The company helped resolve these problems by forming small discussion groups to deal with them openly and to allow male and female co-workers the chance to communicate over family and work issues.

The two women interviewed believed that most of the problems arose from the company policy of hiring only single women. "Most were young girls and, like all normal girls, they wanted to have boyfriends." There was only one incident of a former prostitute soliciting at the plant; most women appeared to have entered relationships naively and with co-workers. The only incident of apparent sexual harassment on the part of a foreman was duly investigated by the company.<sup>9</sup> One male laborer who tried to molest a woman after work hours was immediately fired. The company instituted a support system for women when harassment arose, and the women interviewed believed that more women would have quit if not for this support.

The women interviewed were extremely proud of their skills and work experience. Both found their plant work challenging though dirty. They transferred out of the plant only after most other women had left and when male resistance to the remaining women began to increase again. At this point, management's support system was withdrawn since it considered the experiment a failure. The few remaining women were encouraged to leave production.

In their final comments, the male manager and consultant said that women rejected production work and always wanted to transfer into the office area to cleaner, higher status (though not higher-paying) jobs. "Women never said so outright because they were too proud, but they accepted quickly when we offered." After further questioning, the men reconsidered this statement and added that they might be applying it selectively to women. Men also wanted to move out of the plant and into the office area and "they constantly requested transfers." At any rate, it was management's position as of December 1983 (unchanged as of May 1985) that women were excellent in drafting positions and on the technical staff but did not work out in the area of production. They have no desire to repeat the experiment.

### The Steel Mill

The state-owned steel mill is composed of 34 production centers, located in 23 separate plants, which produce a variety of finished and semi-finished steel products through several technological processes. These start with oxygen and electric furnaces. "Rolling" of steel and continuous casting in electric furnaces are the most common processes and have reduced considerably the requirements of strength and body size that characterized labor in less-advanced steel production processes. The mill has its own railway system to connect production areas and to link it with the briquette factory and the iron ore mining facility which are both located outside the industrial zone. In 1979, the mill hired 586 women to work as unskilled or semi-skilled laborers in production. At the time, the mill employed over 19,000 persons, of which about 10,000 were workers engaged directly in

production. Including the 586 laborers, there were 1,420 women employed by the mill.<sup>10</sup>

The first women engineers were hired in 1974. By 1981, there were approximately 50 women working as engineers at the mill. That same year, less than 100 women remained as plant laborers and most of these were janitors. Total male and female employment stood at about 15,000.

A broad data base is available for evaluating the experience of the incorporation of women at the mill. I carried out interviews in 1980 and 1981 with representatives of the labor union (SUTISS) and with managers from various administrative divisions, including Industrial Medicine, Labor Relations, Human Resources, Personnel, Industrial Engineering and Social Services. Management made available several reports and surveys that evaluated the characteristics and needs of female employees and the performance of production workers, both men and women. In 1981, 17 production laborers, three production supervisors, and 25 female engineers were interviewed individually. On three occasions, male and female engineers were also interviewed informally in groups.

The entry of female engineers at the mill was due primarily to two factors: 1) the increasing numbers of women graduating from national metallurgical and mechanical engineering programs, many of whom were former classmates of male engineers working at the mill who helped them obtain employment; 2) the shortage of technical professionals in the country.<sup>11</sup> A third factor was the reluctance of professionals to live in Ciudad Guayana, a frontier city characterized by shortages in urban services, lack of cultural infrastructure, and a hot, humid climate. Management did not approve of a general policy of hiring women; however, in the face of shortages, specific female engineers with outstanding credentials or those recommended by colleagues were hired.

The mill held out on hiring women as production laborers until 1979, despite a move on the part of other industries to hire women between 1975 and 1978 and a government campaign carried out through the mass media to encourage women to enter construction and technical training programs in the city. In 1978, the continued shortage of male labor, the increasing numbers of women who applied for work,<sup>12</sup> and the personal encouragement of the president of the mill broke down the resistance of the male managers and supervisors who had previously rejected female applicants referred by the Personnel Department. Hiring of female laborers began in January 1979 following a study by the Division of Industrial Engineering and the Division of Industrial Medicine.

The study used guidelines established by Labor Law and the physical requirements specified in job profiles to identify 3,017 potential production jobs (29% of a total of 10,393) where the mill would permit women to work.<sup>13</sup> By November 1979, only 19% of the potential jobs and 5.6% of all production jobs had been filled by women.

Surveys of female laborers conducted by mill personnel in 1979 and the interviews I carried out in 1981 found that the majority of the women were divorced, widowed, or abandoned heads of household with several children to support. Most were over thirty years old. Representatives of the labor union in 1980 confirmed that most were single mothers for whom employment at the mill was the only viable alternative to domestic service or prostitution.

Surveys by Fritcher (1979) and Laprea (1979) were carried out when female employment was at its peak. They found that over half of the 586 women occupied in direct production were unskilled laborers, most of whom worked as janitors. This is the lowest-paid occupation in the area of production. Less than 5% of the women were skilled technicians. Although women and men in the same occupations earned the same wage, men were more evenly distributed across all occupations with the exception of the lowest level where women were concentrated. Most of the women in skilled or semi-skilled occupations were torch cutters, carpenter's apprentices, packers, dispatchers, quality control inspectors, warehouse stockers, machinists (light machinery), crane operators, fork lift operators and welders.

In contrast, the female engineers tended to be young, single women, recently graduated, for whom work at the mill was their first job. Of the 25 female engineers sampled, about 25% were married, half of them to male engineers working in the Guayana program; another 20% were divorced women attracted by the housing benefits offered to mill professionals. All the female engineers had entered the public sector because it offers a greater opportunity for the advancement of women than does the private sector where discrimination in employment and wages is greater.

Although the mill had no explicit policy for channeling women toward certain engineering tasks, individual managers tended to request male engineers for work involved directly in production and assigned women to quality control, sales, services, and auxiliary activities. Only a few women managed to literally "fight" their way into production jobs, usually through pressure placed on close friends or political cronies, by direct protests to upper-level management, or through the intervention of the professional organizations in which they were active.<sup>14</sup> These strategies were curtailed when managers wrote gender requirements into the occupational profiles they were asked to prepare to standardize specifications for engineers. At the time of the interviews in 1981, approximately 16% of the 50 female engineers worked in production, and only two women held managerial positions, both at lower levels.

By 1980, employment reductions in construction followed the completion of several large projects, including the Phase IV expansion of the steel mill. This released skilled and semi-skilled male labor for work in other industry sectors, including manufacturing. By the end of that year, the mill was already laying off women in production. By early 1981, the country faced an economic crisis, and there was an abrupt drop in international steel prices as well as a reduction in the demand for steel from national

and international markets; these factors led to serious production declines in the steel mill. At this time and despite official claims to the contrary, a well-documented policy was instituted to lay off workers and, specifically, to block the continued hiring of female laborers. Supervisors were told to "fire the women first."<sup>15</sup> The labor union--which by law supplied up to 75% of the labor needed--indicated that the letters that arrived from Personnel specifying new labor requirements clearly indicated "males only" or requested "women over age 35 to work as janitors." Union officials were too busy with the overall layoff problem to do more than offer a verbal protest to this move.

The decision to fire women in production was not linked to a higher absenteeism, higher turnover rates, or lower productivity. In fact, studies conducted by mill personnel of laborers hired during 1979 indicate that women showed significantly lower absenteeism and turnover rates than did men. One study found that productivity levels (units produced per worker) increased significantly between 1978 and 1979 for production areas where women were incorporated; the same did not hold true for areas with no women. This did not necessarily mean women were more productive; rather, it was interpreted by personnel analysts to mean that the presence of women had a positive effect on all productivity. The Laprea and Fritcher studies reached the same conclusion and also found that supervisors subjectively considered women to be less productive despite their acknowledged lower absenteeism and greater effort on the job. The main factors attributed by supervisors to productivity problems were the lower levels of training and experience that women as a group brought with them to the job. The women laborers interviewed at that time (1978-79) concurred with the supervisors and expressed a need for further training to improve their performance and their opportunities for promotion. Many reported they depended heavily on the good will of their supervisors to teach them job skills.

Despite the opinion of supervisors that female laborers were less productive as a group than men, almost all the sixty supervisors surveyed by Laprea said they thought the mill should continue to hire women and offer them training. They pointed out that two-thirds of all labor problems and conflicts arose between men and that women were more likely to heed safety measures and less likely than men to defy authority. Most problems with women stemmed from their greater difficulty in working the 11 p.m. to 7 a.m. shift, the lack of physical facilities (bathrooms and lockers) for them, and the risk of pregnancy.<sup>16</sup> Size or strength factors were not considered major obstacles. These supervisors believed, however, that women should be hired for very specific tasks--janitorial work and the operation of light machinery.

The 155 female laborers Fritcher interviewed and the seventeen laborers I interviewed in 1981 agreed with male supervisors that men and women are different and cannot always handle the same jobs. These laborers justified discrimination on the basis that women are the weaker sex. Furthermore, their family responsibilities encouraged accepting light tasks at the mill in order to save strength for household tasks. But, unlike their male

supervisors, one of the jobs women considered unsuitable for female laborers was that of janitor; they found it too taxing. These women aspired to be electricians, carpenters, machinists, grease monkeys, welders and plumbers--well-paid, skilled craft jobs they considered appropriate for women.

The final report on female productivity by Laprea and her work group recommended hiring women and providing for training and promotion. Their recommendations followed closely those of the supervisors and interviewed and took into account women's preferences as well. Upper-level management disregarded the findings of the study, however, because, in the words of one manager, "the conclusions are suspect ... the report was prepared by women."

Laborers were not the only women who faced discrimination or the questioning of their productivity. Female engineers confronted many of the same arguments against their incorporation into production. Managers expressed concern that working at the mill conflicted with the engineers' femininity and assumed women would prefer placement in "cleaner" work environments. Production work also requires rotating shifts, being on call 24-hours a day, and working overtime. Female engineers were told they were being channeled into nonproduction areas to protect them from these demands. Although some single mothers and married engineers found this to be to their liking, a larger group protested they were being "protected" from the benefits of over-time and night pay and from promotion. The mill, because of its size and centralized administration, is structured so that all but production jobs are dead-ended at lower management levels. To rise to upper-level management, an engineer must work his or her way up through the production ladder.

Female laborers in 1979 encountered initial resistance from some male co-workers. These men had not been prepared for the incorporation of women into the work place, and there were problems with sexual advances, obscenities, verbal harrassment, and "grabbing." Other men wondered whether or not to be chivalrous. Some women, also confused by the new work setting or simply taking advantage of the situation, tended to let the men handle their heavier tasks. Initially, a problem arose when several former prostitutes solicited among co-workers. Supervisors said that by the end of 1979, most of these problems had been corrected. Although the mill did not have a grievance system, a number of men were fired for harrassing women; several women were also fired for soliciting. For the most part, sexual activity in 1979 was confined to infrequent voluntary relationships between co-workers.

In the absence of any official policy of support for women in the mill, supervisors handled each case of harrassment on an individual basis. No guidelines were ever developed to deal with harrassment. Three female engineers developed small group discussions in the plant where they worked and reported that male laborers became so supportive of female co-workers as a result that they often formed groups to help construct or repair the women's houses on their days off. (Upper level management ordered these

groups disbanded in 1982.) The labor union was not deeply involved in the issue because the board of directors was divided into a minority who wanted to include women's problems (harrasment, double day, day care needs) in union issues and a majority for whom women "only distract the men and cause trouble at the mill."<sup>17</sup>

By the end of 1981, the women's situation had become intolerable for most. At the time I conducted my interviews, the labor union was finally denouncing a campaign known as "Operation Mattress." Foremen at the plant, backed up by an authority structure that requires all laborers to file complaints through their immediate supervisor and by the plant policy to let women go, used their position to demand sexual favors. "Operation Mattress" meant that only women who slept with foremen would be allowed to keep their jobs. This situation created intense tension. The 17 women and three male plant supervisors interviewed that year mentioned sexual harrasment by foremen as a primary concern.<sup>18</sup> Most were at a loss as to how to deal with it. Female engineers attempted to set up support groups for female laborers, but upper-level managers simply did not believe that such a situation existed or would not face it directly. The female engineers were threatened with the loss of their positions or with dead-ending if they did not cease these "radical feminist" activities.

Mill management declared that "Operation Mattress" was a fabrication promoted by the union and no action was taken to control the problem or to set up a grievance mechanism for the women affected. The Head of Labor Relations was the only member of upper management to show concern when the topic arose during his interview. He considered placing an investigator undercover to work as a laborer where she could verify the situation but no action was taken.

Female engineers did not report sexual harrasment as a problem. Several mentioned that they had been approached, but in a very subtle way. Male professionals did not make open demands; rather they phrased proposals in joking terms or as "favors" to the women. Most female engineers claimed to have sufficient social skills to fend off proposals without offending the source.

Female engineers complained primarily that they were constantly passed over for promotions in favor of less-qualified men. In fact, two women reported having trained between them at least four men who took over jobs that the women had filled temporarily. This meant that the men these women had trained became their supervisors. When female engineers requested explanations, they were most often told this was done for their own good or because men, both other engineers and production laborers, would never accept a female supervisor. It was not clear to the women whether they were facing a mill policy or personal discrimination only. Some managers actually said they personally would never allow a woman to be a manager. The two women who had reached lower-level managerial positions by 1981 had been turned down on numerous occasions for those same positions and were only offered the jobs after lengthy job searches failed to produce

appropriate male candidates. Then, when offered the positions, both women were told they would not be promoted further because they were women. In fact, the job descriptions for their positions still specify as a minimum requirement that the manager be a man.<sup>19</sup>

One explanation offered by mill management for their general policy against hiring women as laborers is the lack of adequate infrastructure for men and women. The first problem was the lack of separate lockers or bathroom facilities. Secondly, the medical program at the mill did not include gynecology or family planning at the time of the study. Another explanation was the belief that women would be uncomfortable in the presence of men who acted unchivalrously, swore, or smelled unpleasant. Many managers also believed women would be more adversely affected by heat and noise at the plant than men, although no studies were carried out to test that hypothesis. Female laborers counter that even when women are not allowed to work as skilled labor or operatives near the furnaces, they continue to be assigned janitorial tasks in the vicinity of the furnaces. High levels of radiation in some areas were also used to exclude women, since an undiagnosed pregnancy could be adversely affected. Finally, managers and supervisors found that the initial higher productivity of women quickly levelled off to that of men. When hiring women, managers considered "risk factors" like pregnancy, possible role conflict, and the opposition of male workers. They concluded the "costs" of female employment were not justified when men could do the same work at the same level of productivity.

#### Characteristics of Discrimination

The problems faced by women in nontraditional occupations at the mill and, to a lesser extent, at the specialty steel plant can be summarized under the general concept of discrimination in its fullest sense. Both laborers and engineers are labelled by co-workers and superiors first as women and only second as laborers or engineers. The personality traits and physical attributes of their gender are often assumed by these male co-workers and superiors to intervene in women's productivity. At the very least, co-workers and superiors assume those traits and attributes play a role in everyday tasks at the mill or plant.

Thus, the greatest obstacle faced by women is the personal discrimination to which they are subjected by men; but the characteristics of this discrimination differ among groups of men and are associated with factors of class and age. The latter is, in part, an indicator of men's relative experience with women; younger men have had more exposure to women as fellow students and workmates. (The former is, in part, an educational difference.) Women in Venezuela only entered engineering and other nontraditional technical fields in significant numbers in the 1970s. Female laborers were common only in traditional industries such as food processing and textiles. In fact, until the mid-1970s, the national technical training institute (INCE), did not allow women to participate in courses in construction, automotive repair, or for operatives. In the few instances in which individual women did gain entry, neither INCE's nor their individual efforts could usually place them in an appropriate job.

Class differences are linked to the differential expression of machismo (male dominance and sexual prowess) across classes and to the greater freedom of expression allocated to "privileged" women. Not only is machismo more frequently found in its extreme expression among laborers, but also the professional/managerial classes have traditionally used higher education as a means of setting apart "their" women from those of the working classes. A higher class status gives the individual woman greater freedom to transgress the boundaries of a general social norm and a woman's profession is a marker of status which counterbalances the lower status of her gender.

In general, men of the professional classes less frequently see female employment in nontraditional occupations as a "threat" to their masculinity than do men of the working classes. This is also supported by the common expressions of discrimination in these groups--paternalism among engineers and sexual harrassment among the laborers.

The interviews with female engineers, male managers, and male supervisors (both groups also engineers in this setting) revealed that, in general, professional men in both the mill and the specialty steel plant projected their own stereotypes of women onto the women with whom they worked. Interestingly, these stereotypes are also class-specific. That is, men's greater familiarity with women of or near their own class (mother, sister, wife, and, to a lesser extent, secretary) supported the application of stereotypes to female engineers, but did not guarantee the imposition of the same stereotype on working-class women.<sup>20</sup>

Male supervisors assumed working-class women were burdened with family responsibilities. This led to a greater attention to their work habits and potential absenteeism. Female laborers interviewed in 1981 protested that, despite the fact male absenteeism was greater, supervisors tended to routinely approve men's requests for time off at the same time they denied or questioned women's. In fact, although most female laborers interviewed by Fritcher indicated their own poor health and family problems were the major cause of absenteeism, these factors did not show up in the official reasons they gave to their supervisors. The female laborers interviewed in 1981 explained they were careful to hide the true causes of absenteeism because they could not risk reinforcing the belief that a woman's family responsibilities interfere with her work role or that the female constitution is not adequate for the labor required or the environment of the mill. Yet, no matter what excuse the women gave, supervisors still attributed absences to family problems or menstrual cycles. In fact, one supervisor at the mill indicated he kept charts on his female personnel according to past absences and that he always "knew" when specific women were menstruating and adjusted their work schedule and tasks accordingly although no women requested special treatment or confirmed his assumption.

This attention to family matters in the case of female laborers also extended to female engineers. Absences of women with children were generally attributed to family problems even when other reasons were given. One recently divorced engineer reported that she came down with the flu

shortly after she and her husband separated. Although she provided a doctor's excuse and was careful to assure that her absence not be attributed to the separation, she found out most of her colleagues and superiors continued to believe that she had taken time off to dedicate to her young son. Female engineers complained on numerous occasions that, like female laborers, their requests for absences received treatment different from that accorded to men's requests. "If a man asks for time off to take his wife to the doctor, everyone thinks that's admirable. But if I ask for time off to take my son to the doctor, that's touted as proof that family responsibilities and engineering don't mix."

The attention accorded to female engineers' family situations by male colleagues appeared to differ from that of laborers in at least one important respect. Engineers reported that male colleagues and superiors were more concerned about husbands or partners than about children. Because professionals, especially engineers, make up a closely-organized pressure group in the state industries, most couples knew each other personally. Female engineers who had been or were married at the time of the interview indicated that their superiors repeatedly expressed a concern that the husband would be upset if the wife were assigned to work overtime. As one engineer expressed it, "My husband was never annoyed if I had to work late, but my boss was. He wouldn't like for his wife to be out at night, so he assumed my husband should feel the same."<sup>21</sup> In general, women said they felt that their male superiors had more respect for the personal feelings and interests of husbands and boyfriends than for those of their female colleagues. Another divorced engineer said she had been repeatedly denied a promotion while she was married and was only given it after she divorced. Her superiors admitted to her that her single parenthood did not present an obstacle for the promotion, but her status of wife had; they felt the additional responsibility attached to the promotion would put a strain on her marriage.

Although female engineers indicated that discrimination on the part of males was the greatest, if not the only, problem they faced at the mill, most agreed that this discrimination was not "malicious"--a fact that made it more difficult to deal with without confusing or causing hard feelings among paternalistic males. Experiences were so similar that exchanges reported between men and women were almost standard. For instance, when women complained about being left out of important projects or not assigned overtime, superiors usually responded with "I didn't know you wanted to work like a man." Women reported that males simply did not comprehend their insistence that they wanted to be treated like any capable engineer. For most men, especially older engineers with little prior experience with women as colleagues, these women are women first and engineers second. Yet the women view themselves first as engineers and only secondly as women. Younger male engineers were better able to accept women as colleagues because they had, studied with them, participated in political movements together, received their support during conflicts with a superior, and generally had more experience with women as equals.

Over time, however, the favoritism accorded young male engineers by older colleagues has served to alienate the sexes. Women reported decreasing levels of support and comradeship precisely at a time when production cutbacks were leading to increased competition for scarce promotions. Men with less seniority were promoted over more experienced and, in the words of several engineers, "more intelligent and outstanding" women.

The experience of the two women in managerial positions shed light on the subtleties and frustrations faced by most female engineers. One manager left the mill shortly after her interview. Although she left primarily because of differences between her administrative style and that of a new superior, she said her exit was probably hastened by the lack of support for women from colleagues and the constant pressure she was under to "prove herself" because she was female. The second manager had sought her position for over a year and had even filled the job temporarily during the job search. After no appropriate male candidate could be found, her superiors indicated she was given the job "in spite of her gender and against their will." Yet she reported no difficulties on the job. Her reply is typical of the work style described by women in production:

I've had to change my personality some, to be more authoritarian. But it hasn't been difficult. The problems my bosses thought would arise, haven't. If a laborer undresses, I act like I haven't seen. If they swear and yell, I don't pay attention. In fact, the foremen tell me the workers don't pay enough attention to them, that they prefer to deal directly with me ... because I treat them with more respect. My main problem has been to convince my superiors that I don't have the problems they think I should have.

Unlike engineers, female laborers did perceive "malice" in the discriminatory treatment they received. One example involved the difficulty they faced for promotions. In 1979, when the mill management showed interest in evaluating female performance and when attention was directed toward women, female laborers hired in that year received proportionately more promotions than did males hired the same year. Women, however, started out lower on the job ladder and entered with a higher average educational level than did men. Both factors would have predicted a rapid reassessment of their potential. In 1981, when mill management was interested in letting women go, the backgrounds and experiences of the 17 women interviewed did not match promotion patterns. The two women with prior experience in other industries, including one woman who had supervised over twenty workers at a textile mill, remained in the same positions at the same base salary with which they had been hired almost two years before.<sup>22</sup> The three women who had risen most rapidly in salary and position were not among those with the greatest training or real work experience in the mill. In fact, the woman with the greatest advancement had taken two pregnancy leaves (a total of eight months) in two years. These three women were those pointed out by co-workers and a male supervisor as maintaining sexual relationships with

foremen from the production area. In this particular area, promotions of laborers were determined by foremen.

Discrimination also influenced male evaluations of the performance of both laborers and engineers. Women complained of having to constantly prove themselves while male abilities went unchallenged. Male supervisors and managers at both the mill and the specialty plant indicated they did pay more attention to the performance of female laborers and engineers. The men interviewed agreed the added attention to women was "unfair" but "unavoidable" because of the novelty of women in steel plus their fewer numbers. They attracted attention. At the same time, younger male engineers in Ciudad Guayana expressed resentment at the greater attention accorded women, claiming it was a benefit. They did not understand the women's position that this attention increased job stress. Women also did not understand the men's position that attention favored women.

Women reported that men tended to generalize the negative performance of an individual woman to all women while the failure of an individual male was not generalized to all men. This was confirmed by male managers and applied to both engineers and laborers. The same was not true for positive performance. Women reported this also contributed to job stress. Both engineers and laborers spoke of being forced to assume a role as "representative" of all women. "If I make a mistake, it's not just my mistake. It proves women are unfit for [this type of work]." When confronted by men's comments that "women don't work out"; these women attempted to use their own positive performance to disprove the statement. Yet, consistently, male superiors and co-workers responded that the individual woman was "an exception." This interaction was reported by all twenty-five engineers and by more than half the laborers.<sup>23</sup>

Direct personal discrimination is not the only type of discrimination faced by women, but it is the most serious and, through the inclusion of gender requirements in job profiles, has become institutionalized. Other discriminatory factors are structural and include infrastructural limitations, legal limitations and the content of training programs.

A variety of infrastructural limitations were identified; these affected laborers more than engineers. Protective helmets and boots, required for all workers in production areas, originally came only in large sizes. The mill had to order specially-made equipment for women. Placement of seats and handles on imported plant vehicles and machinery was designed for larger torsos and longer arms than is typical of most women--and many Venezuelan men for that matter. The shape of spiral staircases for reaching crane cabins made their use by pregnant women difficult. Most complaints, however, focused on the lack of separate facilities for men and women. Temporary restrictions had to be imposed by management to provide lockers and bathrooms for women. The cost of constructing additional facilities was cited as an important factor which discouraged the continued employment of women.

Venezuela's Labor Law includes specific provisions designed to "protect" women. On the one hand, laws designed to exclude women from "physically and morally" dangerous work, mining, or night work are used to restrict hiring of women in industries, especially those with three daily shifts. Equal pay for equal work clauses, combined with generous pregnancy leave stipulations (at full pay), contribute to a situation in which female labor is potentially more costly than male labor. In fact, if a woman were to give birth at the end of one work year, she could theoretically take off as many as eight consecutive months from work by combining holidays and vacations for that and the following year with her pregnancy leave. During her absences, her employer would have to find a replacement, yet would be obliged to hire her back at the end of her leave.

The same protective legislation used against women includes clauses that could truly help working women. These include equal pay for equal work and requirements for child care centers in all companies employing more than thirty women. Nevertheless, few companies, private or public, comply with child care rules and only public agencies guarantee equal pay for equal work. Female laborers, the group most burdened by the "double day," consistently say that on-the-job child care at the mill is their number one need.

Content analysis of training programs offered by the national technical training institute and the state-owned industries of Guayana showed that most courses implicitly "assume" the person taking the course has a basic knowledge of mechanics upon entry. This imposes a handicap on those who do not have this background and often leads to incomplete preparation which affects job performance; this affects more women than men. Performance is then used to argue against hiring women. An example of this occurred with a special program designed to prepare women as crane operators at the mill. Male engineers complained to superiors that women did not work out because they did not remember to oil the cranes. An enterprising female engineer investigated and found that the course for operators did not include oiling of cranes. For men of the Venezuelan working class, familiarity with machinery was usually a basic part of the childhood socialization experience. They assumed maintenance of the crane as a part of their job, while women did not. Interestingly enough, such problems did not occur at the specialty plant since the courses taken by welders and precision cutters had been especially designed for women and did not assume this basic knowledge of mechanics.

### Worker Behavior

In her prize-winning study of a large corporation, Kanter identified three factors as predictors of worker behavior: opportunity, power and numbers (1977:245-249). Corporate structure (and, it should be added, corporate infrastructure) combine with social roles to create situations within which specific worker behavior develops. The preceding analysis described aspects of the behavior of males favored by greater opportunity, power, and numbers and women's response to male discrimination.

Deaux and Ullman (1983:115-126) studied two steel mills in the United States where they found patterns of lower absenteeism and turnover rates for females, discrimination by males and job concentrations similar to those described for Ciudad Guayana's heavy industry. They identified a tendency for both men and women to externalize blame for women's ostensibly poor performance at the mills. Men blamed women themselves and women blamed men and the structure of on-the-job relations. Most importantly, the Deaux and Ullman study confirmed cultural and age differences both in the distribution of women across occupations (e.g., Hispanic women tended to concentrate in janitorial positions) and in the coping strategies developed by women to deal with their situation. The following analysis focuses on women's responses to their situation and the factors that contribute to differential behavior. These include both the structural factors suggested by Kanter and the class and age factors suggested by Deaux and Ullman.

The harrassment of women by male co-workers between 1974 and 1980 at the mill and the specialty steel plant was an expression of machismo on the part of working-class males. Machismo in this setting was an attempt to reaffirm male dominance and "put women in their place" when they invaded male territory. The female laborers and male supervisors interviewed in 1981 expressed a clear understanding of this early situation. Sexual harrassment by foremen at the mill in 1981 was, however, different. It represented the extreme abuse of power by males--the victimization of women. This recent type of harrassment was made possible by the structure of authority at the mill and the withdrawal of mill support for the employment of women.

Although female laborers did not have much real power and security initially, withdrawal of at least nominal attention and interest in their performance left them in a totally powerless position relative to men, thus, encouraging harrassment. And, though engineers did not suffer from sexual harrassment, the contraction of professional employment in the post-boom period also weakened their position. They reported increasing levels of tension and feelings of insecurity and isolation between 1979 and 1981.

Reactions to stress and to the unsought role of "representative" of all women were varied with some important class differences. For one, engineers had more freedom of choice than laborers. As heads of households, laborers had to work and nowhere in Ciudad Guayana would they earn a salary as high as they could in the mill. Engineers had greater options for employment and were less likely to be the sole support of a family. This permitted freedoms such as changing jobs or taking risks through direct confrontation.

In general, women of the working class, the laborers, accepted the legitimacy of discrimination against women. But they objected to the content or form of the discrimination to which they themselves were subjected. Working class women believed women to be physically inferior to men but morally superior. Many reported placing a high value on chivalry which they considered an expression of respect for their social roles of wife and mother, the reaffirmation of their "femininity." Working class women objected to the use of profanity, and they complained about

supervisors' rudeness in dealing with them. Only one mentioned that rudeness was generalized to dealings with all laborers, not just women.

Most women also said they wanted to earn acceptance and respect as laborers. Several expressed a belief that their success at stereotypically-male tasks heightened their self esteem and encouraged a revision of their own beliefs regarding female capabilities. In no case did this revision eradicate the underlying acceptance of physical inferiority; it merely contributed to a narrowing of the assumed difference.

Female engineers, on the other hand, rejected the notion that they were in any way inferior to men. They admitted to individual differences in capacity and intellect, not to group differences. In fact, many female engineers were of the opinion that social norms encouraged selectivity factors among female engineers that contributed to the intelligence and ability of the average female engineer being greater than those of the average male engineer. As a result, discrimination was even more difficult to accept and led to expressions of anger and bitterness. Chivalry was not generally valued by female engineers, and they used profanity on the job and off.

In general, both engineers and laborers attempted to deflect discrimination through comradeship. Female laborers at first emphasized job performance and productivity as a means of assuring acceptance from supervisors. In the event of the hostility this generated among male co-workers, laborers opted to shift emphasis to the adoption of male work rhythms and productivity levels. Although this solved their daily clashes with co-workers, it weakened their position with supervisors. Neither strategy deterred the sexual harassment imposed by foremen.

Female engineers, on the other hand, did not sacrifice work style or productivity for comradeship. They continued to be very competitive as engineers. Most used participation in professional organizations and political activities to consciously break down male co-workers' resistance. When male engineers at the same levels faced difficulties with superiors, women often offered their public alliance. In this way, they "chalked up points" which they did not hesitate to use later.

Small groups of females opted for different strategies. Among laborers, several women gave in to pressures and sought the protection of foremen through sexual favors. Some sought to "flee" harassment by requesting transfers to other plants. Two reported directly confronting harassment and were pointed out by supervisors as "troublemakers." Despite these differences, most indicated suffering from stress-related illnesses and living "on the edge"--holding on as long as possible, but always in fear of losing their jobs.

Among female engineers, five women were pointed out by other engineers as "queen bees." They stressed their femininity through exaggerated feminine dress, makeup, and gestures. In the opinion of their more militant

counterparts, they "played up to" or deferred to male managers and accepted being channeled into auxiliary roles. In this way, each had formed an alliance with a paternalistic male. As he moved up the managerial ladder, she moved up with him. By accepting a supportive role, they were guaranteed a measure of security without the stress reported by more militant engineers.

At the same time, only militant engineers made efforts to promote the employment of other women or defended the interests of women as a group. But their efforts to "raise men's consciousness" often provoked hostility. In the case of four female engineers, their militancy elicited an accusation of lesbianism which successfully curbed their activities. For most, militancy provoked a more subtle questioning of their "femininity" or emotional stability. Many engineers interviewed late in 1982 indicated increasing their use of frilly blouses and makeup to circumvent hostility or feign deference. In several of those cases, managers had specifically ordered women to cease talking about women's issues or risk dismissal for introducing "political activities" into their on-the-job interactions. Women said that "feminine trappings" were a small price to pay to deter accusations and reduce hostility.

What is important about these experiences is that each woman had to deal with discrimination on an individual basis, whether her strategy was "femininity," feigning deference, seeking comradeship, pursuing intellectual discussions, or an increasing efforts to prove her capabilities. The women often attempted to use their own competence as an example to break down discriminatory attitudes, but found this did not work. Each woman, laborer or engineer, was able to find some individual solution (with varying degrees of satisfaction) to a shared problem, but men continued to tell each woman that she was the exception. This was particularly true of the interaction between male and female engineers with one important distinction. Women indicated slightly more success in swaying co-workers, especially when these co-workers had occasion to study or work with several female engineers. There was, however, less success with managers who tended to be older and have less experience working with women; managers also did not participate as frequently in professional organizations and political movements because these were often at odds with managerial policy.<sup>23</sup> This further limited opportunities to interact with women as equals.

Age was not as important a factor in Ciudad Guayana as it was in the Deaux and Ullman study in the United States. There were a few age differences in the strategies noted among the female engineers. Older engineers tended to opt for "feminine" strategies, while younger women tended to be more militant. Following increased pressure from management in 1981 and 1982 and the cutbacks in production which led to fewer promotional opportunities, however, several previously militant engineers opted to start families and to increase the relative importance of their personal lives to their careers.<sup>25</sup>

Some strategy differences among female engineers may also be associated with class differences. Older female engineers tended to come from

professional class families while a majority of the younger engineers came from working class backgrounds. The fact they had often faced family opposition and struggled with financial hardship during their studies indicates personality traits that could contribute to differences in coping styles. No such differences were noted among laborers. Most of the laborers were over thirty-five, but older women were as likely as younger women to be harrassed and to report stress.

Finally, for both engineers and laborers the issue of numbers may have played a role in strategy choices. Older female engineers were relatively isolated throughout their careers and did not have other women as models or to provide mutual support. Younger engineers did have models (even when they did not agree with their coping strategies) and they initiated careers when national and international attention focused on and supported their career moves. Younger women, therefore, had been exposed to a greater range of possible strategies and both real and theoretical models than had the older women. Older women also indicated more traditional attitudes regarding male and female stereotypes than did younger engineers. The same held true for male engineers.

In the case of laborers in both the mill and the specialty steel plant, greater numbers of women on the job contributed to lower levels of harrassment and weaker male resistance to women. Harrassment and hostility were greater for isolated women, and isolation weakened their efforts to maintain non-traditional jobs. One woman at the specialty steel plant indicated that the level of harrassment from co-workers was inversely proportional to the number of women working in a section. As women quit or were transferred, hostility had increased and had become unbearable when she was the sole remaining woman.

This study suggests that some factors that lead to sex discrimination, especially structural factors, may create similar dilemmas for men and women across cultures. But the behavior of men and women in the face of those dilemmas differs in content and degree according to cultural factors such as norms and roles, and to factors of age and class. This is important to the development or implementation of corrective programs designed to increase productivity and to overcome discrimination as a factor adversely affecting productivity in a particular organization or culture.

NOTES

1. In Venezuela, women are traditionally concentrated in five female professions: teaching; social work; social science; nursing; and pharmacy. Women are also about half of all doctors and lawyers.
2. Over half of all children are born out of wedlock and are never recognized by their fathers or supported by them.
3. Data taken from the semesterly household surveys of the Corporacion Venezolana de Guayana (Guayana Development Corporation).
4. About one sixth of the urban labor force in Ciudad Guayana is employed in the steel industry.
5. Given the distribution of marital status by age in the city, single women are concentrated at the two age extremes. They are either elderly or under 20.
6. Precision cutters calculate sizes and cut steel pieces with light machinery.
7. Night work is prohibited by law and requires a special dispensation from the Ministry of Labor at the joint request of employer and female employee.
8. A typical tactic was to grab women and use obscenities when they entered the company bus for the ride to and from work. Another was to leave obscene messages on or around the lockers.
9. In the absence of concrete evidence, management transferred the supervisor to a section with no women.
10. Data provided by the Personnel Department and CVG household surveys.
11. The shortage was a direct result of rapid industrialization in the 1970s.
12. Mill policy established training requirements or minimal educational levels (usually high school) for women. This was not true for men.
13. Data provided by the Personnel Department.
14. The two major professional organizations in the area are the Colegio de Ingenieros and APSA, Association of Professionals at the Steel Mill.
15. Male engineers confided this information following a briefing by managers.

16. Yet, the mill has no data on the numbers or proportions of laborers who actually got pregnant.
17. The president of the union made this comment during an interview with a feminist reporter. But under his direction, the union made serious attempts to introduce protective clauses for women into the new labor contract. The clauses were stricken when the union was "intervened" by the authorities and its directorate ousted for political expediency and at the request of mill management.
18. In each plant, the structure of authority rises from laborer to foreman, supervisor, lower-level manager (by section), middle-level manager (department), and upper-level manager (plant or central departments).
19. These job descriptions are prepared for all positions by the supervisor or manager immediately above the position to be filled and at his discretion.
20. Kanter (1977) also found that men projected their experience with female family members and secretaries on their interaction with women at work.
21. Several women mentioned informally that men act like they are "all in the same club" and look out for each others interests, even if these interfere with male-female work relationships.
22. It should be noted that one of these women had filed a harrassment complaint against a former foreman.
23. Not all laborers indicated the same level of consciousness regarding discrimination. The three who were pointed out as having engaged in sexual relationships with foremen denied the existence of sexual harrassment and declared not ever coming into contact with discrimination.
24. Since 1979, every elected Board of Directors at the Colegio of Ingenieros has included one or more women. In 1981, APSA elected its first woman as president.
25. Kanter indicates that individuals who are dead-ended or in unstimulating jobs with little hope of escape tend to emphasize interpersonal relations and become more family or recreation-oriented. Three of the women in this study decided to become single mothers and discussed this with their superiors. All three received support and the guarantee of continued employment during and following pregnancy.

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