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Stress and Health in First-Year Law Students: Women Fare Worse

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The social and psychological consequences of being a female law student may include greater stress and worse health than that experienced by male students. First-year law students at a major state university were surveyed about their physical and psychological health prior to, in the middle of, and at the end of the school year. They were also asked about specific sources of strain (e.g., grades, time pressure) at mid-year. Relative to men, women reported greater strain due to sexism, lack of free time, and lack of time to spend with one’s spouse/partner. Women also displayed more depression and physical symptoms at the end of the year. Partial correlation analyses controlling for baseline health were used to show associations between mid-year strain and end-of-year emotional and physical health. Gender-role constraints may be more responsible for women’s stress than law school per se.

In 1870, Illinois refused to license Myra Bradwell as a lawyer simply because she was a woman (Fossum, 1983). In upholding this decision, the Illinois Supreme Court wrote that, “God designed the sexes to occupy different spheres of action and that it belonged to men to make, apply, and execute the laws....” (Wallach, 1975, p. 86). Such overt sexism is no longer legally sanctioned, and the number of women lawyers is rapidly increasing. In 1971, only 9% of the students in American Bar Association (ABA)-approved law schools were women (McLean, 1992). In 1987, women made up approximately 20% of all lawyers worldwide (World Almanac, 1989), and since 1987 they have comprised over 40% of students in law schools approved by the ABA (“Different mix,” 1991; McLean, 1992).

1We appreciate the assistance of Scheon Griffin and Steve Yaung in data collection and coding. We would to thank an anonymous reviewer for helpful comments on an earlier draft. This study would not have been possible without the support and cooperation of Sherry Kozlouski and Dean of Students Susan Eklund of the University of Michigan Law School.

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That divine design is no longer invoked to bar women from law, however, does not mean that equality has been achieved. Many argue that women still do not receive equal treatment as they pursue careers in law (Coplin & Williams, 1978; Elkins, 1983; Robert & Winter, 1978; Seidenberg, 1986). This article focuses on one of the earliest steps in the process of becoming a lawyer—law school. Students in general find law school stressful (Beck & Burns, 1979; Eron & Redmount, 1957; Shanfield & Benjamin, 1985; Stone, 1971; Taylor, 1975). However, the social and psychological consequences of being female in the traditionally male environment of law school may include additional stress among women, so that women may fare worse psychologically and physically as they negotiate that environment.

Reasons for Greater Stress for Women

There is evidence that the general academic environment is a difficult one for women. For over two decades, social and developmental psychologists have been investigating how men and women are evaluated by themselves and others in achievement contexts. Some studies have used classroom observations. In one such study, negative feedback given by teachers to school-aged girls tended to be largely targeted to their ability, whereas the negative feedback given boys was more mixed in its focus, sometimes relating to intellectual ability and sometimes to rule violations (Dweck, Davidson, Nelson, & Enna, 1978). The type of feedback typically given to girls has been shown to be capable of diminishing both boys' and girls' academic self-concepts (Dweck et al., 1978). In a more extensive study Parsons, Kaczała, and Meece (1982) did not replicate these findings of Dweck et al. (1978), but found other examples of differential teacher treatment of boys and girls. Whatever the cause, by junior high it appears that girls' behavior in scholastic situations has become constrained. A recent study of sixth- through eighth-grade students found that girls feel less able than boys to express themselves around their teachers (Harter, Gonzales, & Waters, 1993). That this gender difference was not found in respondents' expressing themselves around peers, suggests that the academic environment may be an especially stressful one for girls. This may result in additional difficulty in law school. For example, women may experience more stress due to the Socratic method (being intensively questioned by the professor about the day's topic in front of the class); indeed, Banks (1988) found that female law students speak less in class for fear of being ridiculed or devalued by their professor (Spangler, Gordon, & Pipkin, 1978).

Researchers also have examined whether girls and women are more likely than boys and men to devalue their own ability through negative
evaluations of and self-disparaging attributions for past performance and pessimistic predictions for future performance. A number of studies have found that women devalue their own ability, although sometimes this effect has been qualified by moderator variables (e.g., masculinity of the task) and sometimes no gender differences have occurred (Daubman, Heatherington, & Ahn, 1992; Frieze, Whitley, Hanusa, & McHugh, 1982; McHugh, Frieze, & Hanusa, 1982).

These issues have also been addressed with specific reference to higher education. Hall and Sandler (1982) evaluated the treatment of women in a number of academic settings; they report that behaviors, expectations, and roles based on gender stereotypes can easily interfere with women’s post-secondary education. “Women post-secondary students are more likely than men to doubt their abilities and to attribute their success to luck or hard work rather than skill” (Hall & Sandler, 1982, p. 4).

Mismatches between stereotypes regarding lawyers and women may be an additional source of stress. Male law students believe that an ideal lawyer must possess certain traditionally male characteristics—such as objectivity, dominance, independence, self-confidence, and competitiveness—not stereotypically associated with women; further, female students feel that the ideal lawyer is much more competent and much less emotional than they are (Coplin & Williams, 1978). Robert and Winter (1978) found that men and women agreed about the characteristics of the ideal lawyer, but that women saw themselves as further from that ideal than men did (Seidenberg, 1986). Although some of these stereotypes may have changed with time, evidence from occupational studies suggests that competence and “masculinity” continue to be associated in the minds of workers. Throughout the 1980s studies reported that men tended to define competence as a male trait; however, during this time women managers added some feminine-associated traits to the already masculine-associated traits contained in their views of successful managers (Gutek, 1993). These findings can be related to Higgins’s (1987) self-discrepancy theory. According to the theory, the discrepancy between a person’s actual self-concept and his or her ideal self (either one’s own ideal or the ideal one believes a significant other would want the person to attain) is associated with feelings of dejection-related emotions. The “masculine,” “ideal lawyer” is likely to be more different from the self-concepts of the women students than from the men’s. These differences in perceptions may cause women to feel less supported by the institution, and may make the academic pressures of law school more stressful for women.

Women may also feel at first surprised and then marginalized due to the relative exclusion of women and issues of particular interest to women from the texts and topics of classroom discussion. Examples used in class may tend
to feature men in verbal illustrations of the topics that are covered. For example, a study on gender bias in the classroom conducted by the University of Michigan's Women Law Students Association (Petro, Raker, & Inglehart, 1989, p. 2) found that "in many classes, students observe that . . . nearly every buyer, seller, landlord, tenant, contractor, judge, lawyer, stockholder, and CEO is male"; women students also reported that professors referring to judges and lawyers as exclusively male made it more difficult for them to imagine themselves in these roles. Erickson (1988) notes that law texts and curricula often omit topics such as gender-based discrimination and poverty law that Erickson believes are of particular concern to women. To the extent that women perceive they are not a part of the legal world, they may feel out of place and unimportant. Indeed, Spangler et al. (1978) found that female law students feel socially isolated in law school. This sense of relative insignificance and isolation is a potential source of stress less common in white males. Even if there were objectively an absence of differential treatment based on sex, the perception of sexist attitudes and behaviors may increase the stress women law students feel. This would be consistent with a number of findings that female managers experience greater stress than men due to perceptions of sexism (Korabik, McDonald, & Rosin, 1993, for review).

An additional difficulty faced by many female law students is related to nonschool responsibilities. A number of studies demonstrate that the gender-role changes accompanying the women's movement into the work force have been asymmetrical. Women have expanded their duties by adding work responsibilities to their extant family roles, whereas men have not tended to add family obligations to their work roles (Gutek, 1993). Of relevance to legal education, some women must take care of a family while attending law school, thus increasing the demands on them relative to men (Clark & Rieker, 1986; Seidenberg, 1986). It is as if a woman has two jobs, wife/mother and student, either of which is a full-time activity for many people (cf. Hochschild, 1989; Korabik et al., 1993). Even single women may feel more conflict and stress than men over the division of their time between school and relationships (Clark & Rieker, 1986). Further, gender-role expectations may make the psychological strain associated with the time spent away from family or romantic relationships greater for women than for men (cf. Biernat & Wortman, 1991; Gutek, Searle, & Klepa, 1991).

Evidence of Greater Stress

Given the above factors, it is plausible that women would experience more stress-related problems in law school. Indeed, the few studies that have examined gender differences in these areas find that women tend to report more
difficulties than their male colleagues. On a general level, Robert and Winter (1978) report that significantly fewer women than men agree with favorable statements about law school. Supportive data are also reported by Clark and Rieker (1986) in their study of self-reported stress among medical and law students. They found that female students experienced problems with spouse or partner, sexism, shortage of time, and deadlines as significantly more stressful than did men. In their study of law-student mental health, Shanfield and Benjamin (1985) found that women scored higher than men on numerous indices of psychological distress (e.g., depression, hostility, anxiety).

These studies strongly suggest that women experience more stress and psychological distress in law school than men. However, they do not establish that the law school experience is the cause of these differences. The women may have differed from the men before coming to law school. In the general population women tend to show more depression than men (Nolen-Hoeksema, 1987), and differences between male and female law students may simply reflect this general trend. In order to know if entry into law school has more adverse effects on women than men, their psychological and physical health status must be assessed before entry into law school.

Present Study

In the present study, we examined gender differences in first-year law students' reports of stress and psychological and physical health. An important advantage of our study is that it includes measures of psychological and physical health before the students entered law school. This allows us to assess changes that occurred in the law school environment for female and male students, over and above any preexisting gender differences. An inference problem encountered in many longitudinal studies of gender and stress is thus reduced; exposure to the stressor (law school) has not yet occurred in the first wave, so we have a better idea of the impact of the stressor (see Wethington & Kessler, 1993, for further discussion). For all indicators of psychological and physical health, we examined gender differences in the middle of the first year of law school and at the end, controlling for psychological and physical health status prior to entry into law school. Direct measures of environmental stress were taken in the middle of the academic year. Based on previous research, we made four types of predictions.

First, rather obviously, we predicted that women would perceive more sexism in law school than men would, and that they would find this perception of sexism more stressful than men would.

Second, on the basis of earlier research, we predicted that women would experience more stress related to social isolation, academic pressures, treat-
ment by the institution, and conflict between professional and personal concerns.

Third, we predicted that women would show higher levels of emotional distress (greater depression and negative affect, less positive affect) than men by the end of the first year. (The term "depression" refers to specific behaviors and feelings, whereas "negative affect" is a more global assessment of mood and includes anxiety and hostility.) Given that psychological distress can contribute to physical illness (Cohen & Williamson, 1991; Maddi, Bartone, & Puccetti, 1987; O'Leary, 1990), we also predicted that women would report more physical symptoms than men.

In addition to the above three predictions of male-female mean differences, the fourth prediction involves the association among variables. If, as predicted, women exhibit higher levels than men in both law-school stress and general emotional/physical health problems, a plausible hypothesis is that the stress leads to the health problems. Prospective associations between various indicators of law-school stress and later health (controlling for earlier health) should thus be detected.

Method

Procedure

The data reported here are part of a larger, on-going longitudinal investigation of stress and coping among law students at the University of Michigan. Wave 1 data were collected in August 1989, before students' arrival on campus. Questionnaires were mailed to students in their law school orientation packets with a cover letter explaining the study. Stamped, addressed return envelopes were included. No Wave 1 questionnaires were accepted after the start of classes. This questionnaire provides baseline data on health, affect, and depression.

Wave 2 questionnaires were administered in February, 1990, about a month after the beginning of the second semester. These questionnaires were distributed and collected through the law-school mail system. By this time students had received grades from most of their first-semester classes. According to the Dean of Students at the law school, results from the strictly enforced grading curve for first-year classes make this an extremely stressful time for most students (S. Eklund, personal communication, 1989). From this questionnaire we obtained not only data on mood and health, but also data on specific sources of stress experienced in law school.

The Wave 3 questionnaire was administered on the last day of second-semester classes in late April, 1990. This should be a time of relatively high
stress for the students, as final exams (typically the major determinant of students' grades) are imminent. Surveys were distributed and collected with class evaluations in the four classes required for first-year students. This third questionnaire included the same health and mood scales used in the first and second waves, and thus provided a measure of change.

The longitudinal data used in this paper were obtained by matching the Wave 1, Wave 2, and Wave 3 questionnaires by date and place of birth of the respondent.

Subjects

At each wave, questionnaires were distributed to all 370 first-year law students at the University of Michigan. Approximately 175 participated in Wave 1, 136 participated in Wave 2, and 244 participated in Wave 3. Male-female comparisons of sources of stress used only Wave-2 data (136 students, 43% female). The average age of these students at Time 2 was 24.9 years (range = 21 to 53). Analyses of change in health, affect, and depression utilized data from individuals who responded to both the first and second waves (84 students, 40.5% female, mean age = 23.8, age range = 21 to 36), both the first and third waves (112 students, 44% female, mean age = 24.1 years, age range = 21 to 58), and all three waves (66 students, 42.4% female, mean age = 23.6 years, age range = 21 to 34).

Although sample sizes for some individual waves and combinations of waves were below half the class size, 332 students (90%) participated in at least one wave. This allowed us to compare various subgroups (e.g., respondents who completed Wave 1 only, Waves 1 and 3, etc.) on all the outcome measures to see if individuals with any specific participation pattern had any distinguishing psychological characteristics. On virtually all comparisons, the individuals who completed all phases of the study (the smallest subgroup) were found to be the same as the other subgroups of participants. Thus, it is unlikely that the respondents used in the analyses are systematically different than those who were not included. Nonetheless, especially for the analyses using lower numbers of subjects, it is possible that there are important differences between those students included in the analyses and those who are not included because they did not respond to one or more of the waves.

3 There were 12 analyses (each of the four distress/well-being indicators at each of the three measurements was a dependent variable). In only one of the 12 comparisons did students with complete participation differ from another set of students. Students who completed all waves scored lower on Wave 2 physical symptoms \((M = 1.50)\) than students who completed Waves 2 and 3 only \((M = 1.75; p < .05, \text{ Tukey HSD test})\).
Measures

Sexism. Respondents' perceptions of sexism were evaluated at Wave 2 with three items: "The faculty treats students differently according to sex," "Law students treat their fellow students differently according to sex," and "I feel that sexism is ingrained in legal academia (e.g., sexist language, sexist hypotheticals)." Students rated each of these items on two 10-point scales, ranging from never (1) to always (10), they had perceived or felt that form of sexism, and then rating how stressful ranging from not at all (1) to extremely (10) that perception or feeling was for them.

Stress. Items assessing other sources of stress were adapted from Carrington and Conley (1977), Heins, Fahey, and Henderson (1983), and Reifman, Biernat, and Lang (1991). Interviews with upper-year University of Michigan law students, and pretesting of items with students from other law schools helped refine the measures. As with the sexism items, students rated the frequency and stressfulness of a variety of potentially stressful circumstances on 10-point scales.

For all stress items, we considered the "cumulative strain" due to a given stressor as a multiplicative interaction between its frequency of occurrence and its stressfulness when it does occur. Thus, cumulative strain scores for each item were the product of its frequency and stressfulness; this method was also used by Goplerud (1980) in a study of stress during graduate school. Maximum strain occurs when the event is both extremely frequent and stressful. This would generate a strain score for that item of 100 (i.e., $10 \times 10$). A person achieving this score on an item would be considered to have ten times more cumulative strain than a person who considered the source extremely frequent, but not at all stressful ($10 \times 1 = 10$), or not at all frequent, but extremely stressful ($1 \times 10 = 10$).

Strain was computed for a total of eight scales in four areas: social isolation, academic pressures, institutional support, and personal time. The items used for assessment of strain are recorded in the Appendix.4

4As part of the larger study, three additional strain scales were formed: cumulative strain related to racism, living in the law school dormitories, and uncertainty about one's reasons for attending law school. Women experienced more cumulative strain due to perceptions of racism, $t(91.21) = 2.87, p < .01$, and, marginally, to experiences of dorm living, $t(68) = 1.82, p < .10$. There was no difference in strain related to uncertainty, $t(128) = 1.08$.

It is unlikely that the reason women in our sample experienced more stress due to racism was that more of them were direct targets of racism, as being female and being a racial or ethnic minority were fairly independent ($r = .09$). Interestingly, Clark and Rieker (1986) found no gender differences in stress related to racism, whereas Robert and Winter (1978) found women to be more sensitive to racism.
Strain from *social isolation* was operationalized by multiplying the frequency and stressfulness scores given in response to the item, "I felt lonely." This generated scores which could range from low frequency and stressfulness (1) to high frequency and stressfulness (100).

Academic pressures were assessed with three different scales: general academic frustration, strain due to the Socratic method, and strain due to the search for a summer internship. Students' general academic frustration scores were based on 10 items. First, for each item the product of the frequency and stressfulness ratings was computed. Then the 10 products were averaged, comprising a general frustration index. This also generates a scale with a potential range from 1 to 100. Examples of items assessing general academic frustration are, "I feel there is little (or no) connection between how hard I work in a class and the grade that I get," and "I am concerned about failing." Reliability for this, and all scales created for this study, was computed using Cronbach's alpha; academic frustration alpha = .86. The same method was used to compute strain scores for the four-item Socratic method scale (an example item: "Being called upon in class seems to be more of a 'grilling' than a quest for knowledge"; $\alpha = .86$), and the two-item summer internship scale ($\alpha = .69$).

Strain associated with potential lack of *institutional support* was assessed with two scales. Five items were used to measure strain due to aversive faculty behavior (e.g., "Faculty appear to care only about their own careers, and not enough about students"; $\alpha = .73$), and two questions measured strain associated with the perception that the administration was not supportive of students ($\alpha = .84$).

Finally, strain related to *personal time pressures* created by law school was evaluated with two scales. The first was a four-item index assessing pressures related to free time (e.g., "Because of my law school work load, any time I spend relaxing by myself is less enjoyable and more pressured"; $\alpha = .88$). Second, strain due to lack of time with one’s spouse or romantic partner was assessed with a two-item scale ($\alpha = .89$).

At a reviewer's suggestion, we recalculated the article's statistics using frequency and stressfulness as separate indicators. Thus, corresponding to each strain scale, we created a frequency scale composed of the average of the frequency items, and a separate stressfulness scale composed of the stressfulness items. There was no notable difference in the pattern of relations using these separate indicators and the pattern found when using our multiplicative "strain" indices.

To evaluate the overall association between frequency and stressfulness at the scale level, we computed correlations between these two measures for each scale. These correlations ranged from .70 to .89. The association between frequency and stressfulness could also be evaluated at the item level. Over the 45 items, the correlations between frequency and stressfulness ranged from .39 to .91.
Emotional symptoms. There were three measures of emotional "wear and tear." To measure depression we used the 20-item Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977), in which respondents indicate how frequently each symptom has occurred in the previous week ($\alpha = .83, .91, .89$, at each wave, respectively). Some examples of the items are: "I had trouble keeping my mind on what I was doing," and "I felt that everything I did was an effort."

In addition, we used the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) to measure these two dimensions of mood. Subjects indicated, on a scale ranging from very slightly or not at all (1) to extremely (5), how often they generally experienced certain feelings, such as interested, excited, afraid, and jittery. There are 10 positive items ($\alpha = .79, .88, .87$, at each wave) and 10 negative items ($\alpha = .84, .88, .87$, at each wave).

Scores on the PANAS reflect general feeling-state, whereas scores on the CES-D indicate the frequency of specific symptoms of depression. The PANAS assesses the more general and global emotional status. Together, then, they provide two different types of assessments of emotional well-being.

Physical health. Health was measured by asking subjects the number of days during the past month (never, 1-2 days, 3-6 days, 7-14 days, 15+ days) that they had experienced various physical symptoms (students could also mark "not applicable"). For example we asked how often they had experienced a cold or flu, menstrual cramps, chest pains, and loss of appetite. These items were used previously by Reifman et al. (1991). Some of the items, such as menstrual cramps, could only be experienced by women; in order to assure comparability between scores for men and women, we assigned the answers scores from never (1) to 15+ days (5) and divided the sum of these scores by the number of symptoms possible for the subject’s sex.

Results

Before testing for the predicted gender differences, it was important to determine if demographic differences between men and women might play a role in any relations found. Thus, at each wave possible, sex was correlated with age, ethnic/racial minority status (yes or no), marital status (Waves 1 and 2), nonmarital relationship status (Waves 1 and 2), and number of children (Wave 1 only). None of the correlations was larger in magnitude than $r = .10$, a level that was not statistically significant. Thus, gender differences found are not due to these variables.
Sexism

We expected that women would report more frequent and more stressful perceptions of sexism than men would. Six separate items were used to measure perceptions of sexism. The items are moderately to highly correlated with each other (range of $r = .36$ to $.75$, all $p < .001$). Thus, the individual tests of gender differences in these items are related and should not be considered independent comparisons of perceptions of sexism and resultant stress. We chose to test them separately, however, to examine gender differences for each specific perception.

As displayed in Table 1, women notice instances of sexism significantly more frequently than men do and perceptions of sexism cause them significantly more stress. Following from this pattern, it is also shown in Table 1 that women experience significantly more strain than men from perceptions of sexism. Women see more frequent instances of gender discrimination by both faculty and students (faculty: $t[95.91] = 3.69$, $p < .001$; students: $t[117.77] = 3.10$, $p < .01$), and the perception of this behavior causes them more stress than it does men (faculty: $t[89.54] = 6.06$, $p < .001$; students: $t[105] = 6.10$, $p < .001$). Further, women are more likely than men to see sexism as ingrained in law school ($t[111.12] = 4.11$, $p < .001$), and this perception causes more stress in women than it does in men ($t[93.12] = 5.59$, $p < .001$).

Cumulative Strain

As displayed in Table 2, the strain scales tended to be moderately to highly intercorrelated. Therefore, we evaluated gender differences in these scales using a multivariate analysis of variance. The multivariate test was significant, $F(8, 73) = 2.04$, $p < .05$; below, the univariate tests are discussed. To achieve a family-wise type-I error rate of .05, univariate tests

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6When doing $t$-tests, homogeneity of variance was tested with an $F$-test. If the hypothesis of equal sample variances had to be rejected, we used a separate variance estimate; otherwise we used a pooled variance estimate. If separate variances were used, degrees of freedom were altered by the statistical program (SPSS) to deal with the heteroscedasticity, thus resulting in decimals in the degrees of freedom. All tests are two-tailed.

7Including “time with partner” in the multivariate test eliminated all students who did not have partners from the pool of subjects used in all univariate tests. Thus, the degrees of freedom for the multivariate test are lower than might be expected. To examine whether this loss of power influenced the results, we ran a second multivariate analysis of variance excluding this variable (thus including students without romantic partners). The pattern of significance of the univariate tests did not change; however, the multivariate test was no longer significant.
Table 1

*Gender Differences in Perception of Sexism*

<table>
<thead>
<tr>
<th>Question</th>
<th>Men</th>
<th>Women</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Faculty treat differently</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>2.44 (2.00)</td>
<td>4.07 (2.84)</td>
<td>3.69</td>
<td>.001</td>
</tr>
<tr>
<td>Stressfulness</td>
<td>2.18 (2.27)</td>
<td>5.39 (3.45)</td>
<td>6.06</td>
<td>.001</td>
</tr>
<tr>
<td>Strain</td>
<td>8.30 (16.31)</td>
<td>28.86 (31.78)</td>
<td>4.42</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Students treat differently</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>3.79 (2.92)</td>
<td>5.40 (3.05)</td>
<td>3.10</td>
<td>.01</td>
</tr>
<tr>
<td>Stressfulness</td>
<td>3.00 (2.60)</td>
<td>6.05 (3.14)</td>
<td>6.10</td>
<td>.001</td>
</tr>
<tr>
<td>Strain</td>
<td>15.86 (23.61)</td>
<td>28.13 (31.90)</td>
<td>4.41</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Ingrained in law school</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>2.95 (2.80)</td>
<td>5.14 (3.22)</td>
<td>4.11</td>
<td>.001</td>
</tr>
<tr>
<td>Stressfulness</td>
<td>2.45 (2.37)</td>
<td>5.39 (3.38)</td>
<td>5.59</td>
<td>.001</td>
</tr>
<tr>
<td>Strain</td>
<td>11.38 (21.56)</td>
<td>36.25 (35.44)</td>
<td>4.65</td>
<td>.001</td>
</tr>
</tbody>
</table>

*Note.* Frequency and stressfulness scales run from 1 to 10. The strain scale runs from 1 to 100. Tests are two-tailed.

Gender differences in perception of sexism were significant only if \( p < .006 \). The means and results of the tests are shown in Table 3.

*Social isolation.* We predicted that women would experience greater loneliness than men. This difference was not significant.

*Academic pressures.* We expected women to experience more strain in three academic performance domains. However, men and women showed no significant differences in general academic frustration, strain caused by the Socratic method, or strain related to finding summer employment, although women scored slightly higher on all three measures.

*Institutional support.* We predicted that women would experience more strain associated with perceived aversive behavior and attitudes of the faculty and the administration. These hypotheses were not supported, although women again scored higher than men on these measures.

*Personal time.* We hypothesized that women would experience greater strain related to lack of time for themselves and their partners. This prediction
Table 2

*Intercorrelations of Strain Measures*

<table>
<thead>
<tr>
<th></th>
<th>Academic pressures</th>
<th>Institution</th>
<th>Personal time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social isolation</td>
<td>Frustration</td>
<td>Socratic</td>
</tr>
<tr>
<td>Sexism</td>
<td>.13</td>
<td><strong>.29</strong>*</td>
<td><strong>.28</strong>*</td>
</tr>
<tr>
<td>Social isolation</td>
<td><strong>.36</strong>*</td>
<td><strong>.24</strong></td>
<td><strong>.31</strong>*</td>
</tr>
<tr>
<td>Academic pressures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socratic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001, two-tailed.
Table 3

**Gender Differences in Experience of Cumulative Strain**

<table>
<thead>
<tr>
<th>Areas of strain</th>
<th>Men</th>
<th>Women</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social isolation</td>
<td>24.33 (31.17)</td>
<td>30.14 (32.31)</td>
<td>0.68</td>
<td>.412</td>
</tr>
<tr>
<td>Academic pressures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>28.51 (18.78)</td>
<td>37.78 (19.76)</td>
<td>4.71</td>
<td>.033</td>
</tr>
<tr>
<td>Socratic</td>
<td>25.04 (21.79)</td>
<td>29.60 (24.91)</td>
<td>0.78</td>
<td>.380</td>
</tr>
<tr>
<td>Summer job</td>
<td>35.22 (31.41)</td>
<td>44.86 (28.22)</td>
<td>2.08</td>
<td>.153</td>
</tr>
<tr>
<td>Institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>11.93 (9.84)</td>
<td>18.33 (13.54)</td>
<td>6.16</td>
<td>.015</td>
</tr>
<tr>
<td>Administration</td>
<td>18.08 (26.50)</td>
<td>28.10 (27.98)</td>
<td>2.75</td>
<td>.101</td>
</tr>
<tr>
<td>Personal time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free time</td>
<td>32.70 (25.67)</td>
<td>54.10 (27.27)</td>
<td>13.29</td>
<td>.001</td>
</tr>
<tr>
<td>With partner</td>
<td>30.10 (30.65)</td>
<td>54.64 (32.56)</td>
<td>12.26</td>
<td>.001</td>
</tr>
</tbody>
</table>

*Note.* Scales are a multiplicative interaction of frequency and stressfulness in each domain; possible range is 1 to 100. All degrees of freedom are (1, 80).

was confirmed. Time and energy spent on law school tasks appear to create greater strain in nonacademic areas for women than for men.

**Health, Depression, and Affect**

*Gender differences in outcome.* Because previous studies have found that women in general display more depression (Nolen-Hoeksema, 1987), greater happiness (Wood, Rhodes, & Whelan, 1989), and more self-reported physical symptoms (Lewis & Lewis, 1977; Verbrugge, 1985) than men, it was important to discover whether gender differences in health and emotional well-being were present before the students came to law school. At Wave 1, prior to the start of classes, there were no significant differences in any of these measures (health: \( t[172] = 1.57 \); positive affect: \( t[169] = -0.40 \); negative affect: \( t[168] = -0.24 \); depression: \( t[160] = -0.74 \)).

We predicted that women would show a decline in health and emotional well-being relative to men. To test this hypothesis, we computed partial
Table 4

*Partial Correlations Between Wave 2 Strain and Wave 3 Outcome*

<table>
<thead>
<tr>
<th>Strain</th>
<th>Positive affect</th>
<th>Negative affect</th>
<th>Depression</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( r ) ((df))</td>
<td>( r ) ((df))</td>
<td>( r ) ((df))</td>
<td>( r ) ((df))</td>
</tr>
<tr>
<td>Sexism</td>
<td>-.03 (57)</td>
<td>.02 (56)</td>
<td>.03 (52)</td>
<td>.19 (61)</td>
</tr>
<tr>
<td>Social isolation</td>
<td>-.14 (58)</td>
<td>.30* (57)</td>
<td>.15 (53)</td>
<td>.19 (62)</td>
</tr>
<tr>
<td>Academic pressures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>-.19 (57)</td>
<td>.29* (56)</td>
<td>.27 (52)</td>
<td>.36** (61)</td>
</tr>
<tr>
<td>Socratic</td>
<td>-.31* (58)</td>
<td>.26* (57)</td>
<td>.18 (53)</td>
<td>.05 (61)</td>
</tr>
<tr>
<td>Summer job</td>
<td>-.09 (54)</td>
<td>.25 (53)</td>
<td>.10 (49)</td>
<td>-.05 (58)</td>
</tr>
<tr>
<td>Institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>.03 (54)</td>
<td>.38** (53)</td>
<td>.15 (50)</td>
<td>.05 (57)</td>
</tr>
<tr>
<td>Administration</td>
<td>-.24 (56)</td>
<td>.15 (55)</td>
<td>.02 (51)</td>
<td>.11 (58)</td>
</tr>
<tr>
<td>Personal time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free time</td>
<td>-.23 (57)</td>
<td>.24 (56)</td>
<td>.20 (52)</td>
<td>.36** (61)</td>
</tr>
<tr>
<td>With partner</td>
<td>-.06 (32)</td>
<td>.29 (31)</td>
<td>.25 (30)</td>
<td>-.02 (34)</td>
</tr>
</tbody>
</table>

*Note.* Correlations were computed controlling for Wave-I measures of outcome. \( df \) = degrees of freedom.

*\( p < .05; **\( p < .01; ***\( p < .001, \) two-tailed.*

correlations between later well-being and gender, holding Wave 1 outcome levels constant. A significant association indicates that the respondent’s gender predicts health and well-being over and above what would be predicted on the basis of his or her health and well-being prior to law school. Negative correlations indicate that being a woman is related to a tendency for higher scores on these variables.

At Wave 2, no association was found between gender and: health, partial \( r(81) = .05 \); depression, partial \( r(72) = -.08 \); or negative affect, partial \( r(79) = -.05 \). There was a marginally significant relation between gender and positive affect, partial \( r(78) = -.19, p < .10 \), indicating that women were experiencing more positive affect than men. This is consistent with the larger literature on happiness (Wood et al., 1989), but is counter to our expectation that women would be less happy in the particular context of law school.
By the end of the first year, however, two of the postulated relations were evident. Women had more symptoms of poor health at the end of their first year than men, partial $r(109) = -0.22$, $p < 0.05$, and women were marginally more depressed than men, partial $r(92) = -0.18$, $p < 0.10$. No differences were found for negative (partial $r[99] = -0.04$) or positive (partial $r[100] = -0.08$) affect.

**Effects of strain on outcome.** Does the degree of strain shown in the middle of the first year relate to greater emotional and physical distress by the end of that year? We tested this by correlating each strain scale with each Wave 3 outcome measure, holding constant outcome level prior to entry into law school. These correlations are displayed in Table 4.

The partial correlations revealed that the outcome measures were independent of strain due to perceptions of sexism. Strain due to social isolation was significantly and positively correlated with reports of later negative affect, but with no other outcome index.

In the area of academic pressures, frustration was significantly and positively correlated with later negative affect and self-reported symptoms. Strain associated with looking for a summer job at Wave 2 was not significantly correlated with any of the Wave 3 outcome measures, although the association with negative affect was close, partial $r(53) = 0.25$, $p = 0.07$. Two indices were significantly correlated with strain due to the Socratic method. There was a negative association with later positive affect, and a positive one with later negative affect.

Concerning the association of institutional support with outcome measures, only one correlation was significant. Strain related to a perceived lack of support from faculty was positively correlated with later negative affect. No Wave 3 indices were significantly correlated with strain from perceived lack of support from the administration.

In the domain of personal time, strain due to lack of free time was associated with a greater number of reported physical symptoms at Wave 3. Higher levels of negative affect were marginally positively associated with lack of free time, partial $r(56) = 0.24$, $p = 0.07$.

When we tested the association of lack of time with romantic partner, approximately 25 cases were lost because the respondents did not have romantic partners. Although most relations with the outcome measures

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8We also examined the correlations between strain and outcome separately for men and women. We found no significant gender differences for any pair of strain-outcome correlations. A difference would have indicated that a particular type of strain was more closely linked with problems for men or women. That there was none suggests that men and women do not differ on the association of strain and outcome.
were in the predicted directions, none of the partial correlations was significant.9

Discussion

Many studies have indicated that women and men experience their educational environment differently (Hall & Sandler, 1982). Law school, in particular, may be an environment in which women experience greater stress and more severe physical and psychological difficulties than men. Our evidence is partly consistent with this claim; it is possible, however, that the greater strain reported by women may have more to do with the interaction of the law-school environment and the more general social climate than it does with law school per se.

Sexism

Not surprisingly, women notice more sexism in law school than men do. Women's mean responses over three measures of sexism were all around 5 on the 10-point scale both in rated frequency and in rated stressfulness, whereas men's fell between 2 and 4. In absolute terms, men perceive very little sexism and women perceive a moderate amount. Of course, these self-report data are not proof that faculty and students actually engage in sexist behavior. However, women's experiences of law school continue to include perceptions of sexism that are stressful to women; they thus have to cope with an additional source of stress.

9 We also tested the associations between Wave 2 strain and the Wave 2 outcome measures. When partial correlations between concurrent strain and outcome were run, holding Wave 1 measures of outcome constant, the coefficients were, as would be expected, generally higher than when Wave 2 strain was used to predict Wave 3 outcome. Social isolation was significantly correlated with: positive affect, partial $r(77) = -.46, p < .001$; negative affect, partial $r(78) = .26, p < .05$; depression, partial $r(71) = .32, p < .001$; and physical symptoms, partial $r(80) = .27, p < .05$. Frustration was significantly correlated with: depression, partial $r(71) = .26, p < .05$; and symptoms, partial $r(79) = .25, p < .05$. Strain associated with looking for a summer internship was significantly tied to more: negative affect, partial $r(73) = .36, p < .001$; and depression, partial $r(66) = .31, p < .05$. Perceived lack of faculty support was also associated with more negative affect, partial $r(71) = .26, p < .05$. In the personal domain, lack of free time was correlated with: less positive affect, partial $r(76) = -.28, p < .05$; more depression, partial $r(70) = .37, p < .001$; and more physical symptoms, partial $r(79) = .29, p < .01$. Negative affect was also associated with lack of time with partner, partial $r(47) = .37, p < .01$. 
Cumulative Strain

We did not find any differences in strain related to social isolation. This may be because only a single loneliness item was used and it may have failed to reflect real differences in social isolation. Alternatively, social isolation may indeed be a less serious problem now than it was in the past. Women now comprise a significant proportion of law students, and most law schools, including the one we studied, have associations of women law students that may provide social support. Similarly, women experienced no more strain than men in interactions with the faculty and administration. The law school social environment does not appear to be differentially stressful for women.

We also found no support for the proposition that women would find academic pressures more stressful than men. Women and men did not differ in the level of strain they experienced due to academic frustration, the Socratic method, or the search for a summer internship. In dealing with the essential activities of being a law student, women and men appear to experience similar levels of strain. This suggests that any gender differences in cumulative strain are not due to women being less able than men to deal with the requirements of being a law student.

Gender differences become pronounced in the most personal domains. Although problems involving free time and attention to spouse or partner produce the highest levels of strain in both men and women, they are especially high in women. (Note that to achieve a strain score of approximately 54, the women's means for these scales, a respondent must report frequency and stressfulness scores in the range of 10 and 5, or 7 and 8; thus, on average, women reported at minimum either mid-range frequency or stressfulness in combination with the highest possible stressfulness or frequency, or both high frequency and high stressfulness.) This stress is very likely related to the more general issues of role conflict that women must face; that stress is highest here is due to much more than the structure or environment of law school. Role constraints may make it more difficult for women to put their personal lives “on hold” the way some men might, explaining to their husbands or lovers that

10 One alternative explanation for women’s experiencing more strain than men due to a lack of time with their spouses or romantic partners is that women’s partners might have been less likely to “follow” them to law school. This could mean that a greater proportion of women’s partners live at a distance, creating more of a problem with lack of time together. This explanation is not supported by our data. We asked respondents at both Waves 1 and 2 whether their partners lived in the Ann Arbor area, and, if not, how far away they lived. There was no significant correlation between student gender and either whether their partners lived in Ann Arbor or how far away their partners lived.
years of relative neglect will be amply compensated in the future. Likewise, women may find it hard to count on a partner to pay the bills by putting education on hold and taking a low-skill job while the woman law student pursues her studies. Some have children, and gender equality in terms of actual number of hours spent dealing with children is almost never achieved (Biernat & Wortman, 1991). Role expectations may make it much harder for women than for men to be single-minded about their law-school education.

Emotional Symptoms

Previous studies have reported gender differences in psychological functioning in law school. One contribution of this study was to measure symptoms before students arrived at law school, so as to evaluate the actual effects of law school on distress. Men and women were not significantly different before starting school. However, by the end of the first year the women appeared to be more depressed than men. This suggests that some component of the first year of law school causes greater psychological distress to women than to men. It is not that the women who choose to attend to law school are depressed to begin with.

Gender differences in health and depression were not found at Wave 2—halfway into the academic year. At this point, however, there were gender differences in the amount of strain experienced by the students. It may be that the negative effects of the strain take longer to become evident than the simple experience of the strain. By the middle of the year, women report more strain due to perceptions of sexism, lack of free time, and lack of time with romantic partner. This strain appears to have taken its toll by the end of the year. These findings underscore the importance of longitudinal research in the area of stress and coping. Not only is it important to get baseline or "prestressor" data, but also to allow time for strain to influence physical and mental status.

Contrary to predictions, no significant gender differences were found in negative or positive affect. Why would differences be found in depression but not emotion? One possibility is that the difference lies in the specificity of the symptoms reported in the depression scale (e.g., I had trouble sleeping) as opposed to the general mood-states assessed by the PANAS. Even though women experience more symptoms of psychological distress than men do, these may not be reflected in self-reports of mood.

Physical Health

In addition to the psychological effects of law school, this study examined
the effects of law school on physical health. Again, no gender differences in health were evident before the students arrived at law school. By the end of the first year, women were in poorer health than men were. Is this due to the symptoms on the health scale that only women could experience? This is unlikely, as Wave 1 status is held constant in these analyses. Even if menstrual cramps, abnormal menstrual periods, and breast swelling exaggerate women’s symptom scores in general, this effect would magnify their Wave 1 scores, also, and would therefore not be a factor. The other possibility is that these three symptoms account for the disproportionate increase in women’s overall symptom score. Again, this is unlikely. For women, the health scale we used correlates .96, .98, and .98 with the same scale without the three women-only items at each wave, respectively. These items cannot account for the greater tendency for women to report symptoms at Wave 3. Strain due to lack of free time in the middle of the year, however, is related to increased symptom reporting by the end of the year. That women experience more of this strain may partially explain why women experience more physical symptoms by the end of the year.

**Limitations**

There are three primary limitations of the current study. Foremost is the self-report nature of the data. For the strain measures, it is not possible to know objectively how frequently each of the events occurs. We must rely on perceptions of frequency only. Thus, we cannot conclude, for example, that in actuality women witness more instances of sexism than men, or that they more frequently feel a conflict between partner and school. However, the perception of the frequency of stressful events need not be accurate to produce cumulative strain.

Similarly, there is no objective measure of the health of the participants; all we know is their subjective retrospective reports. Although it would have been desirable to have confirmation of the respondents’ health data from physicians’ records, confidentiality considerations made this impossible. Further, the types of symptoms on the checklist (e.g., headaches, upper respiratory problems) may not have warranted a visit to a physician, and individuals may vary considerably in their tendency to visit a physician for various complaints; such data thus may not have been much more helpful. Although actual medical examinations of the participants would have been optimal, this would have been prohibitively costly. Further, the use of self-reports of illness has been strongly defended, and continues to be a widely used procedure for conducting research on factors affecting health (Kobasa, Maddi, & Kahn, 1982; Maddi et al., 1987).
A second limitation of the study is the lack of a comparison group. Although using a pre-enrollment baseline and examining differential change over time makes a strong case for the causal role of law school, it does not establish it unequivocally. It is possible that some event or events external to the law school caused a differential change in the psychological and physical status of women versus men during the time period of the study. Optimally, we would have data on a similar group of men and women who were not beginning law school.

Finally, one must be careful in generalizing from this study; there may be differences in the environment at various schools that might influence the degree of stress experienced by women, as well as men. Further, the present study cannot specify whether the particular school studied is, relative to other law schools, good or bad for women, or whether law school itself is, relative to other professional schools, good or bad for women. Despite these limits, however, our data may provide some insight into gender differences in the experience of law school in particular, and higher education in general.

Conclusions

We found that women experience more cumulative strain than men due to perceptions of sexism, lack of free time, and time with romantic partner. Women also reported more depression and ill health during their first year of law school than men did. One contribution of the present study is to identify the specific areas in which women experience more strain. It is interesting that the areas of greatest reported strain are those that are noncurricular in nature. Future studies should delve further into these specific areas; it may well be that gender differences in strain in law school are strongly related to more general gender differences in balancing personal and professional concerns. Law schools should consider what could be done to alleviate or compensate for these additional difficulties faced by their female students. There is some indication that the asymmetry in career-family conflict may be waning (Korabik et al., 1993); if so, then the differential strain experienced by women law students may become reduced with time.

Whatever the causes, the greater psychological and physical difficulties experienced by women are real. Law school takes a toll on all of its students (Beck & Burns, 1979; Eron & Redmount, 1957; Shanfield & Benjamin, 1985; Stone, 1971; Taylor, 1975); our data demonstrate that women are more worn down by the end of the first year than are men, and indicate the areas that are most stressful for them. We hope that the information gained from the present study will facilitate changes that will result in future studies finding no gender differences in stress, depression, or health.
References


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Appendix

*Items Used to Measure Sources of Strain*

**Social Isolation**

- I felt lonely.

**Academic Pressures**

Frustration:
- I don't have enough time to study.
- I am bothered by the lack of feedback about how I am doing in law school.
- I am bothered by the competition for grades.
- I'd prefer exams to be more frequent.
- I am concerned about failing.
- I am concerned about my ability.
- After reading a long and complex case, I feel frustrated at not being able to get the main points out of it.
- I feel there is little (or no) connection between how hard I work in a class and the grade that I get.
- Students who eagerly or aggressively volunteer to speak in class are intimidating.
- Professors do not provide clear information on how performance will be evaluated.

Socratic method:
- I get anxious when I think I'm about to be called upon to speak in class.
- The actual experience of speaking in class is stressful.
- Being called upon on class seems to be more of a "grilling" than a quest for knowledge.
- When I'm speaking in class, I feel that other students are forming negative impressions of me.

Summer job:
- To get the job that I want, getting merely "good" or "respectable" grades is not enough.
- I worry about lining up a job for the summer.
Institutional Support

Faculty behavior:
- I feel that law school teaching is too academic, not practical enough.
- Faculty appear to care only about their own careers, and not enough about the students.
- Members of the law school faculty enjoy embarrassing students in class.
- Members of the law school faculty would downgrade a student for political disagreement with them.
- The law school faculty give too much attention to the academically “elite” students.

Administration support:
- I feel that the law school administration doesn’t care about the kinds of problems I’ve encountered.
- I feel that members of the administration who are concerned with students’ problems have little influence.

Personal Time

Free time:
- Law school does not leave me with enough time to take care of errands and household chores.
- Because of my law school workload, I have to miss out on personal or social activities that I would really prefer to participate in.
- Because of my law school workload, any time I spend relaxing by myself is less enjoyable and more pressured.
- When I spend time relaxing by myself, I’m bothered by feeling that I really should be studying law.

Time with partner
- Being in law school leaves me too exhausted to enjoy time with my spouse/partner.
- Being in law school leaves me with too little time to support my spouse/partner.