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Theresa M. Beiner

University of Arkansas at Little Rock William H. Bowen School of Law, tmbeiner@ualr.edu

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THEORIZING BILLABLE HOURS

Theresa M. Beiner*

ABSTRACT

This article looks at the ethical and diversity implications of high billable hour requirements. While corporate counsel have increasingly demanded a diverse legal workforce and emphasized the need to lower the costs of outside counsel, law firms have not responded to these concerns in a manner that is producing results. Instead, women continue to drop out of law firm practice at higher rates than their male counterparts and the costs of legal services remain high. High billable hour requirements exacerbate both these problems and have implications as well for ethical lawyering. Using data from a variety of disciplines, the article shows that not only do high billable hour requirements make large law firms difficult places for women to succeed, but they also foster work environments that are inefficient and therefore cost clients more. This has implications on a lawyer's ethical duty not to discriminate based on sex and not to charge an unreasonable fee, and also increases the potential of lawyers making mistakes. Studies of lawyers suggest that high billable hour requirements exacerbate the difficulties women have in practice, especially for those women who have family responsibilities. This leads to high dropout rates from law firm practice that hurt both law firms and their clients. Lowering billable hours will increase the possibility that women will succeed in these workplaces while making lawyers more efficient. Using studies of sleep deprivation and sleep restriction, this article explores what clients are getting for their money from sleep-deprived high billable hour lawyers. It is clear that both sleep deprivation and chronic sleep restriction impair the average person's ability to function on many levels—including neurocognitive performance that has important implications for lawyering. In addition, studies of workplace productivity have shown that limiting working hours can actually increase productivity. Thus, limiting hours logically should produce more efficient and ethical lawyering while making law firms more feasible work environments for women.

* Nadine Baum Distinguished Professor of Law, Associate Dean for Faculty Development, University of Arkansas at Little Rock, William H. Bowen School of Law. Research for this article was supported by a grant from the Bowen School of Law. The author thanks Nancy Levit, Ann McGinley, Edgar Garcia-Rill, Brandon Beam, faculty at the University of Arkansas at Fayetteville Law School, and the panel on women in the profession at the annual meeting of the Law and Society Association for helpful comments on this article. This article benefitted from the research assistance of Elizabeth Epps and Amber David-Tanner as well as the support of Professors of Law Librarianship Jeffrey Woodmansee and Kathryn Fitzhugh.

I. INTRODUCTION

In recent years, corporate counsel increasingly have stressed the importance of diversity in the ranks of their outside counsel.¹ At the same time, they have demanded more value for their dollars spent on outside counsel.² In 1999, many corporate counsels from large corporations signed onto a document entitled *Diversity in the Workplace: A Statement of Principle* drafted by BellSouth's then General Counsel, Charles Morgan.³ However, the diversity push by general counsel did not really get off the ground until Roderick Palmore, then General Counsel for Sara Lee, drafted *A Call to Action*.⁴ That document seemingly put teeth into corporate counsels' diversity efforts, asserting that "we further intend to end or limit our relationships with firms whose performance consistently evidences a lack of meaningful interest in being diverse."⁵ And corporate counsel did just that. For example, Wal-Mart pulled two active files from law firms because of their lack of diversity and rearranged its relationship partners to incorporate more women and lawyers of color.⁶ Similarly, Dupont severed ties with a law firm for failing to adequately support its diversity efforts.⁷ Indeed, with companies like Boeing, Intel, Hewlett Packard, Kellogg Company, Shell Oil, and Tyson signing onto *A Call to Action*, large law firms ignore corporate counsels' demands for diversity at their own peril.⁸

At the same time, law firms are increasingly being asked to limit their fees. The Association of Corporate Counsel ("ACC") has issued its "Value Challenge," an effort to make law firms reconsider their high fees.⁹ The avowed premise of the Value Challenge is "based on the concept that firms can greatly improve the value of what they do, reduce their costs to corporate clients and still maintain strong profitability."¹⁰ The Value Challenge comes along with reports of lawyers charging increasing rates in spite of a

1. See Melanie Lasoff Levs, *Call to Action: Sara Lee's General Counsel: Making Diversity a Priority*, *Diversity & the Bar* 20 (Jan./Feb. 2005) (describing movement that began in 1999).

2. See Diane Curtis, *Will a Bad Economy Force More Changes in the Profession?* *Cal. Bar J.* (Jan. 2009). (available at <http://archive.calbar.ca.gov/Archive.aspx?articleId=94781&categoryId=94651&month=1&year=2009>).

3. Levs, *supra* n. 1, at 20.

4. *Id.* at 22.

5. *Id.* at 24 (quoting "A Call to Action").

6. Arif Virji, *Everyone Benefits When Law Firms Diversify to Match U.S. Population*, *San Francisco Daily Journal* 8 (Sept. 13, 2000) (detailing termination of two firms); Melanie Lasoff Levs, *Wal-Mart's Watershed Moment*, *Diversity & the Bar* 28, 32 (May/June 2006) (detailing how Wal-Mart went from 82 of their top 100 law firm relationship partners being white male to substituting forty relationship partners who were women or members of minority groups).

7. Virji, *supra* n. 6, at 9.

8. Levs, *supra* n. 1, at 26 (listing companies who had signed on as of December 1, 2004).

9. Association of Corporate Counsel, *ACC Value Challenge* (Nov. 2011) (available at <http://www.acc.com/advocacy/valuechallenge/toolkit/loader.cfm?csModule=security/getfile&pageid=433000>).

10. *Id.* (quoting Michael Roster, Chairman, ACC Value Challenge Steering Committee).

difficult economy. According to a survey by the Corporate Executive Board, “large-company spending on law firms grew by 49[%] between 2002 and 2005. And while non-law firm costs increased by 20[%] over the past ten years, large law firms’ prices jumped almost 75[%] in the same period.”¹¹ The ACC took note of this, and included it in its briefing on the Value Challenge.¹² The report that shows such trends in law firm costs, the Real Rate Report, is being marketed to corporate counsel by the Corporate Executive Board, a company that consults to help corporate counsel reduce their outside counsel costs.¹³ Thus, large law firms are feeling the squeeze on both fronts—there is pressure to diversify lawyer ranks and pressure to reduce fees.

In this article, I argue that corporate counsel can help achieve both these goals by asking a very simple question: What are the billable hour requirements for your firm’s associates and partners? As I detail below, women drop out of large law firm practice at a higher rate than their male counterparts.¹⁴ High billable hour requirements exacerbate the difficulties women face in practice, especially for those women who have family responsibilities. These high drop-out rates hurt both law firms and their clients. Law firms benefit from long term relationships with lawyers who already know their clients’ business; these lawyers can work much more efficiently. In addition, law firms lose out on lawyers they have spent money training and developing. Thus, retention of women lawyers helps both law firms and their clients.

But there is more to the billable hour debate than simple retention. Using studies of sleep deprivation and sleep restriction, this paper explores what clients are getting for their money from sleep-deprived, high billable hour lawyers. It is clear that both sleep deprivation and chronic sleep restriction impair the average person’s ability to function on many levels—including neurocognitive performance that has important implications for lawyering. In addition, studies of workplace productivity have shown that limiting working hours can actually increase productivity. Thus, limiting hours logically should produce more efficient and better lawyering while making law firms more feasible work environments for women.

This article proceeds in three parts. I begin by exploring women’s drop-out rates from large-firm law practice, including some of the common reasons women give for ending their relationships with their firms. I link

11. Curtis, *supra* n. 2.

12. Association of Corporate Counsel, *supra* n. 9, at 1 (quoting Michael Roster, Chairman, ACC Value Challenge Steering Committee).

13. Corporate Executive Board, *Introducing the Real Rate Report* (available at <http://www.executiveboard.com/real-rate-report/index.html>).

14. See *infra* nn. 16–30 (and accompanying text).

this to high billable hour requirements. Second, I look at the potential effects of sleep deprivation and sleep restriction on the ability of lawyers to do their jobs well and efficiently. I begin this section by trying to answer the elusive question of how much lawyers actually work. Finally, I look at the implications of sleep deprivation and restriction, which likely results from high billable hour requirements, on the diversity and value that corporate counsel increasingly demand. I also briefly explore workplace productivity studies to assess the implications of shorter working hours on lawyers' productivity. While the conclusion may be simple—lower billable hour requirements—the import of this on firm economics is beyond the scope of this article.

II. THE BILLABLE HOUR AND LINKS TO GENDER DIVERSITY

A. Women's Drop-Out Rates¹⁵

The statistics on the success of women lawyers at the largest and most prestigious law firms in the United States are not promising. According to the Department of Labor estimates from 2009, women make up 32.4% of the lawyers in the United States.¹⁶ Yet, according to a recent American Lawyer survey of the top 200 law firms, women make up only 17% of the partners at the firms surveyed.¹⁷ A survey by the National Association of Women Lawyers placed the number of female partners at the 200 largest law firms at 18%.¹⁸ Women's low partnership rates, according to the American Lawyer, occur despite women being "about 51 percent of law school graduates in the last 20 years."¹⁹

15. Portions of this section are taken from an earlier article on women lawyers. See Theresa M. Beiner, *Some Thoughts on the State of Women Lawyers and Why Title VII has not Worked for Them*, 44 *Indiana L. Rev.* 685 (2011).

16. United States Bureau of Labor Statistics, *Household Data Annual Average 2006* (2009) (available at <ftp://ftp.bls.gov/pub/special.requests/l/aa2009/pdf/cpsaat11.pdf>). The American Bar Association places the percentage at 31%. American Bar Association, Commission on Women in the Profession, *A Current Glance at Women in the Law 2009* (Nov. 13, 2009) (available at <http://www.americanbar.org/content/dam/aba/migrated/women/reports/CurrentGlanceStatistics2009.authcheckdam.pdf>).

17. Vivian Chen, *Looking into the Equity Box: Women and Partnership Status*, *The American Lawyer* (Sept. 1, 2010).

18. *New Data on Major Law Firms Finds Women Lawyers Earn Less than Their Male Peers*, 08-4 *Law Office Mgt. & Admin. Rep.* 2 (April 2008) [hereinafter *New Data*].

19. Chen, *supra* n. 17. Although the National Association of Law Placement (NALP) put the percentage of women graduates in the class of 2009 at 46%; NALP, *Class of 2009 National Summary Report* (June 2010) (available at <http://www.nalp.org/uploads/NatlSummaryChartClassof09.pdf>). It is worth noting most lawyers do not work in large law firms. According to data compiled by the American Bar Association in 2000, 48% of lawyers in private practice are sole practitioners. American Bar Association, *Lawyer Demographics* (2011) (available at http://www.americanbar.org/content/dam/aba/migrated/marketresearch/PublicDocuments/lawyer_demographics_2011.authcheckdam.pdf) (only 14% of lawyers in private practice work in firms of 101+ lawyers. These firms made up 1% of law firms in the United States in 2000).

Another telling statistic from the survey is the status of the women who are partners at these firms. Of those female partners who work at firms with multi-tier partnerships, only 45% of them have equity status; this compares to 62% of male partners having equity status.²⁰ Thus, the majority of the women partners occupy a lower tier of partnership. And, it appears that women are taking a tougher hit in terms of employment opportunities due to the recent recession in the United States. The *American Lawyer* reports that for the first time since the National Association for Law Placement (“NALP”) began collecting demographic employment data, diversity in law firm hiring fell. Thus, while women were 32.9% of attorneys in the firms NALP surveyed in 2009, they made up 32.69% in 2010.²¹

Studies show that women leave law firm practice at higher rates than their male counterparts. To take an example from a study in a distinct market, researchers at the Massachusetts Institute of Technology studied the top one hundred law firms in Massachusetts. They found that among junior and non-equity partners, one-third of women leave law firm practice, whereas only 15% of men left practice. The rate for women is double the rate for men.²² The study also showed that one-third of these women associates leave law practice entirely, whereas less than 20% of male associates did so.²³ Even women who “made it,” i.e., who became partners, were more likely to leave their partnerships than male partners—15% of women partners left, whereas only 1% of men did.²⁴ As one author summed up: “Sex strongly predicted exits from law firms and promotion to partnership even when controlling for law school quality, academic distinction in law school, *potential* work experience . . . , legal specialization, having taken a leave for child care, marital status, children, current work hours, and measures of social capital.”²⁵

It’s not, however, that these women are leaving the workforce. Only 22% of the women in the Massachusetts study who left law firm practice stated their status as “not employed”; thus, the vast majority continue to

20. *Id.*

21. Dimitra Kessenides, *Law Firms + Diversity = Declines in Diversity?*, *American Lawyer* (Nov. 4, 2010) (available at <http://www.law.com/jsp/tal/PubArticleFriendlyTAL.jsp?id=1202474473956>) (the representation of minority attorneys among associate ranks likewise declined from 12.59% in 2009 to 12.4% in 2010).

22. Mona Harrington & Helen Hsi, *Women Lawyers and Obstacles to Leadership: A Report of MIT Workplace Center Surveys on Comparative Career Decisions and Attrition Rates of Women and Men in Massachusetts Law Firms* 8 (Spring 2007).

23. *Id.* at 8.

24. *Id.* at 8.

25. Mary C. Noonan & Mary E. Corcoran, *The Mommy Track and Partnership: Temporary Delay or Dead End?* 596 *Annals Am. Acad. Political & Soc. Sci.* 130, 132 (2004) (citations omitted).

work.²⁶ In addition, there is considerable evidence that those who do leave do not “opt out,” but instead are “pushed out.”²⁷ The National Association of Women Lawyers’ (“NAWL”) study of the 200 largest law firms in the United States shows the nature of this attrition. In its study, women start at a high of 47% of law firm associates, drop to 30% of counsel lawyers, drop further to 26% of non-equity partners, and bottom out at 16% of equity partners.²⁸ On the other hand, women are over-represented in “staff attorney” positions, which typically pay less and provide little to no opportunity for partnership.²⁹ As one female associate described:

I once heard someone describe their position as a junior associate at a large law firm as the best paying dead-end job they have ever had, and I thought that it was the most accurate description. For the most part associates, particularly female associates, have no interest in becoming a partner at the firms we are currently employed with. But in reality, there are plenty of exit opportunities. I’ve watched friends and former coworkers go in-house or move to smaller firms. The trouble is, they typically don’t pay as well as the large firm.³⁰

Furthermore, minority women lawyers are very likely to drop out of firm practice. A NALP study found that by 2005, 81% of minority female associates had left their law firms within five years of being hired.³¹ Thus, women lawyers leave large firm practice at high rates. The real question is, why?

26. Harrington & Hsi, *supra* n. 22, at 10. A recent study of Harvard College female graduates from 1988 through 1991 showed women with JDs showed very similar results as of their 15th reunion. Overall, 78.6% of the Harvard women grads with JDs who were married mothers remained in the workforce at year 15 after graduation. Jane Leber Herr & Catherine Wolfram, *Opt-Out Rates at Motherhood Across High-Education Career Paths: Selection Versus Work Environment* 17–18 (Nat’l Bureau Econ. Research, Working Paper No. 14717, Jan. 2009) (available at <http://www.nber.org/papers/w14717>) (Other interesting statistics from this study included that 76.5% were married, 82.4% of those married were parents by year 15, and 63% were both married and a parent. Interestingly, doctors had a much higher rate of staying in the workforce; 94.2% of the married MD mothers remained in the workforce.).

27. See Joan C. Williams, Jessica Manvell & Stephanie Bornstein, Ctr. for WorkLife Law, Univ. of Cal. Hastings College of Law, “*Opt Out*” or *Pushed Out?*: *How the Press Covers Work/Family Conflict* 3 (2006) (available at <http://www.worklifelaw.org/pubs/OptOutPushedOut.pdf>).

28. *New Data*, *supra* n. 18; see also Noonan & Corcoran, *supra* n. 25, at 136 tbl. 1, 137 (showing career paths for University of Michigan Law School graduates over time and the gender gap in lawyers in private practice due to attrition).

29. Stephanie A. Scharf & Barbara M. Flom, *Report of the Fifth Annual Survey on the Retention and Promotion of Women in Law Firms* 8–9 (Oct. 2010) (available at [http://nawl.timberlakepublishing.com/files/NAWL%202010%20Final\(1\).pdf](http://nawl.timberlakepublishing.com/files/NAWL%202010%20Final(1).pdf)) (study of 200 largest law firms shows over 60% of staff attorneys are women).

30. Harrington & Hsi, *supra* n. 22, at 8.

31. See Janet E. Gans Epner, *Visible Invisibility: Women of Color in Law Firms* 1 (2006).

B. Reasons for High Drop-Out Rate

The American Bar Association's Commission on Women in the Profession has identified several obstacles to women's success in the legal profession, including gender stereotypes, lack of mentoring and support networks, inflexible work structures, sexual harassment, and gender bias in the justice system itself.³² Many women lawyers complain about receiving less desirable assignments—essentially grunt or “easy” work such as document reviews and cases no one else wanted.³³ They also note that they have less mentoring opportunities with partners and senior lawyers than their male colleagues.³⁴ In addition, they are asked to participate less in rainmaking opportunities than their male colleagues.³⁵ In a survey of lawyers conducted by the American Bar Association, 43% of women of color and 55% of white women complained that they had limited client contact and client development opportunities, whereas only 3% of white males surveyed had similar complaints.³⁶

I would posit that all of these difficulties women face are exacerbated by work/family conflicts. It is my contention that these conflicts are related to high billable hour requirements. In 2001, Deborah Rhode summed up the state of women lawyers and their family obligations well in her ABA sponsored report, *The Unfinished Agenda: A Report on the Status of Women in the Legal Profession*:

[M]ost female attorneys felt that they do not have sufficient time for themselves or their families, and half report high levels of stress in juggling their responsibilities The result is yet another double standard and another double bind. Working mothers are held to higher standards than working fathers and are often criticized for being insufficiently committed, either as parents or professionals. Those who seem willing to sacrifice family needs to

32. Deborah L. Rhode, *The Unfinished Agenda: Women and the Legal Profession*, ABA Commission on Women in the Profession 14–22 (2001) (describing and citing support); see also Janet E. Gans Epner, *supra* n. 31, at 12–17 (describing the experiences of women of color with respect to the lack of mentoring opportunities); Eli Wald, *Glass Ceilings and Dead Ends: Professional Ideologies, Gender Stereotypes, and the Future of Women at Large Law Firms*, 78 *Fordham L. Rev.* 2245, 2273–2276 (2010) (dividing stereotypes applied to women in large law firms into three categories).

33. See Epner, *supra* n. 31, at 21–23; Steve French, *Of Problems, Pitfalls and Possibilities: A Comprehensive Look at Female Attorneys and Law Firm Partnership*, 21 *Women's Rights L. Rep.* 189, 202–203 (2000).

34. See Rhode, *supra* n. 32, at 16. Interestingly, some studies suggest that women receive more mentoring, but commentators have opined that women perceive mentoring more than their male colleagues. Thus, male associates will not perceive a relationship with a senior partner as mentoring, whereas women will. Yet, women perceive that they do not have the same mentoring opportunities as their male counterparts. French, *supra* n. 33, at 200–201.

35. See Epner, *supra* n. 31, at 19–21 (describing the experience of women lawyers of color).

36. *Id.* at 19. Men of color likewise complained less of this than did women attorneys. Only 24% of men of color complained of limited access to client development opportunities.

workplace demands may be thought lacking as mothers. Those who need extended leaves or reduced schedules may be thought lacking as lawyers.³⁷

Unfortunately, not much has changed since 2001.

Studies continue to show that women face considerable work-life balance issues that their male colleagues either do not face or face to a lesser degree.³⁸ In the Massachusetts survey, the most common (over 60% reported this) reason women gave for leaving firm practice, whether they be associates, junior partners, or partners, was “difficulty integrating work and family/personal life.”³⁹ The Massachusetts survey found that for men, the most common reasons for leaving practice were “long work hours” and “work load pressures.”⁴⁰ Family reasons came in third.⁴¹ Similarly, in a recent study of New Jersey female lawyers, researchers found women often chose to leave employers who were not flexible about work arrangements for employers who were more flexible.⁴² In this survey, which was given in early 2008, almost half of the respondents had changed employers since 2002; the most common reason they gave (41%) for doing so was “unsupportive work environment.”⁴³ Some reasons also more explicitly implicated work-life balance issues, including: long work hours (30%); difficulty integrating work with one’s family or personal life (29%); and lack of flexibility in work hours (29%).⁴⁴ In addition, the qualitative research indicated maternal wall problems also played a role in those who responded they left due to “unsupportive work environments.”⁴⁵ One woman interviewed for the study reported that women were considered “slackers” because they wanted to have a child; another experienced a change in her equity status because she had a child.⁴⁶

In a 2009 study of women of color in United States law firms, many of the lawyers surveyed—men, women, white lawyers, and lawyers of color—

37. Rhode, *supra* n. 32, at 6–7.

38. See Epner, *supra* n. 31, at 333–334 (describing the experiences of women lawyers); French, *supra* n. 33, at 197–199.

39. Harrington & Hsi, *supra* n. 22, at 12, 13.

40. *Id.*

41. *Id.*

42. The Center for Women and Work, Rutgers University et al., *Legal Talent at the Crossroads: Why New Jersey Women Lawyers Leave Their Law Firms, and Why They Choose to Stay 2* (April 2009) (available at <https://dspace.njstatelib.org/xmlui/bitstream/handle/10929/25377/w8722009.pdf?sequence=1>).

43. The Ctr. for Women and Work, Rutgers et al., *supra* n. 42, at 3.

44. *Id.*

45. *Id.* at 4–6.

46. *Id.* at 5. Family obligations also affected perceptions of lawyers, demonstrated in an ABA national survey of 920 lawyers who had worked in firms of 25 or more lawyers at some point in their careers. Epner, *supra* n. 31, at 5–6 (72% of women surveyed said their career commitment was questioned when they gave birth to or adopted a child, whereas only 15% of men of color and 9% of white men responded yes to this).

complained that their long work hours were a major challenge to achieving work-life balance.⁴⁷ When it came to obligations for children specifically, it was women with children who responded overwhelmingly that “childcare made achieving work-life effectiveness difficult.”⁴⁸ Over 90% of women lawyers who were parents responded in this manner, and over 76% of women of color responded in this manner as well.⁴⁹ In contrast, less than 50% of white men who were parents responded that childcare made achieving work-life effectiveness difficult, and a little more than one-third of men of color who were parents responded positively to this.⁵⁰ It is clear that childcare responsibilities weigh heavily on the ability of women to achieve work-life balance. In addition, women of color were more likely to have extended family commitments that made achieving work-life balance difficult.⁵¹

In a recent study of Latina lawyers by the Hispanic National Bar Association, participants in focus groups described their difficulties balancing their families and work lives. Interestingly, only half of the survey participants had children at home, and less than 5% had more than two children.⁵² This led researchers to opine that Latinas in the study were strategically postponing motherhood or simply deciding not to have children in order to pursue their legal careers.⁵³ As the study summed up:

[M]any [focus group members] voiced concerns about balancing the seemingly diametrically opposed goals of pursuing a legal career and motherhood. One focus group participant explained: “It’s . . . all or nothing. I remember interviewing [at two law firms] . . . and all the women partners were women that sacrificed . . . not married, no children.” The few focus group Latinas who did have children at home described the herculean task of balancing their careers with motherhood, a task that is undervalued in the legal profession. One focus group participant offered: “You come home, you’re making dinner, taking [care of] your kids, put them to bed, and go right back to work until midnight. Where’s the relief? At some point you get to a breaking point.”⁵⁴

In addition, “[t]he overwhelming majority of Latinas surveyed (70%) believe[d] that having significant family-care responsibilities w[ould] affect

47. Deepali Bagati, Catalyst, *Women of Color in U.S. Law Firms* 42 (2009) (available at <http://www.catalyst.org/knowledge/women-color-us-law-firms%E2%80%9494women-color-professional-services-series>) (59.5% of women of color, 69% of white women; 60.4% of men of color, and 66% of white men responded in this manner).

48. *Id.* at 43 fig. 30.

49. *Id.*

50. *Id.*

51. *Id.* at 45 fig. 31 (13.4% of women of color, 9.3% of white women, 8.2% of men of color, and 6.4% of white men responded positively).

52. Jill L. Cruz, Melinda S. Molina & Hispanic National Bar Association Commission on Latinas in the Profession, *Few and Far Between: The Reality of Latina Lawyers* 40 (Sept. 2009) (available at <http://www.hnba.com/wp-content/uploads/2012/09/HNBA-Status-of-Latinas-September-2009.pdf>).

53. *Id.*

54. *Id.*

their opportunities for advancement.”⁵⁵ These women also spoke of their responsibilities to act as advocates and represent their families.⁵⁶ Thus, “[f]or Latinas, this challenge [of the dual roles of mother and lawyer] is aggravated by cultural and gendered expectations and assumptions about appropriate roles for women, especially mothers—namely, that their primary role is to support their families, and furthermore that their careers are viewed as secondary to those of men.”⁵⁷

Interestingly, NALP surveys of legal employers do not support that associate attrition is due to work-life balance issues, although they do show that more women than men give family obligations as the reason for leaving. NALP regularly surveys legal employers about associate attrition. For example, NALP’s data from 2009 came from 151 law firms that reported to the organization.⁵⁸ According to this study, only 5% of entry level female associates who left their firms gave “better support for work-life balance” as at least part of the reason they were leaving.⁵⁹ In addition, 4% of women gave family or dependent responsibilities and 3% of women gave a “desire to gain a more regular schedule.”⁶⁰ For entry-level males who left, only 3% gave “better support for work-life balance,” 1% gave family or dependent responsibilities, and 2% gave a “desire to gain a more regular schedule.”⁶¹ Thus, a fairly small percentage of either men or women told their law firms that family-related reasons had an impact on their decision to leave, although the percentage of women giving this reason was greater than that of men. For lateral women, 5% told their firms that they were leaving because of “family or dependent responsibilities,” 4% asserted a desire for “better support for work-life balance,” and 3% stated that they desired “to gain a more regular schedule.”⁶² Like the entry level data, fewer men gave these reasons for leaving: 2% of men gave “better support for work-life balance,” 1% gave “family or dependent responsibilities,” and 1% gave a “desire to gain a more regular schedule.”⁶³ It is noteworthy that the most common reason firms gave for lawyers leaving was because the firm was downsizing.⁶⁴ Thus, these lawyers likely did not have a choice about leaving their firms. It is interesting that studies of actual lawyers show such different reasons for leaving than do studies of legal employers. Perhaps women fear

55. *Id.*

56. *Id.* at 33.

57. *Id.* at 48–49 (footnote omitted).

58. The Nat’l Assn. for L. Placement Found., *Update on Associate Attrition* 6 (2010).

59. *Id.* at 25 tbl. 23.

60. *Id.*

61. *Id.*

62. *Id.* at 26 tbl. 24.

63. *Id.*

64. The Nat’l Assn. for L. Placement Found., *supra* n. 58, at 25 tbls. 23, 24, 26 (showing 32% of both entry-level and lateral associates left due to firm downsizing).

being stereotyped into the “mommy track” by giving family-related reasons for leaving their firms and fear what their former law firm might say about the lawyer’s work ethic should it be called for a future reference check. This provides a sense of the stigmatizing nature of being a woman who admits to her firm that she is having difficulty balancing work and family.

One would think that part-time work options would help women lawyers with significant family obligations. However, where flexible arrangements exist, few take advantage of them.⁶⁵ Even when women choose part-time work to accommodate busy home lives, they often sacrifice prestige and quality in work assignments.⁶⁶ As one woman lawyer respondent explained, taking part-time status “completely, utterly and irreversibly altered my future, my practice, my reputation and my relationships.”⁶⁷ And, more recently, the economic downturn has resulted in a disproportionate number of female part-time lawyers being terminated. According to a study of the 200 largest law firms by NAWL, “the substantial majority of part-time lawyers who were cut were women”⁶⁸ Thus, part-time women lawyers appear more expendable and have less job security.

One aspect of the conundrum women lawyers face when trying to balance work and family is that they often are the breadwinners in their households. In a 2006 report, the ABA Commission on Women in the Profession found that the majority of the women they surveyed were the sole breadwinners in their households (75% of women of color; 61% of white women).⁶⁹ Thus, many women lawyers need to work. Women in this study, like those in others detailed above, reported conflicts between careers and family. As one Latina lawyer explained, even though she had an excellent partner/mentor for whom she worked, she was “still a flight risk.”⁷⁰ She went on to say, “I’m not going to be the very aggressive supermom, working 18 hours a day until I make capital partner. That’s the model I see at my firm, and I know that that’s not me.”⁷¹ These women lawyers noted that the

65. Deborah L. Rhode, *Balanced Lives: Changing the Culture of Legal Practice* 15–16 (2001) (available at <http://womenlaw.stanford.edu/pdf/balanced.lives.pdf>) (noting few lawyers take advantage of part-time programs when they are provided).

66. Rhode, *supra* n. 32, at 17–18; Rhode, *supra* n. 65, at 16 (recounting study responses); Hope Viner Samborn, *Higher Hurdles for Women*, 86 ABA J. 30, 32 (Sept. 2000) (finding 46% of women surveyed believed taking part-time status after becoming a parent would very likely have an adverse impact on advancement and 35% of women thought it somewhat likely).

67. Rhode, *supra* n. 65, at 16 (quoting Women’s Bar Association of Massachusetts, *More Than Part-Time: The Effect of Reduced-Hours Arrangements on the Retention, Recruitment and Success of Women Attorneys in Law Firms* 54 (2000)).

68. Scharf & Flom, *supra* n. 29, at 5.

69. Epner, *supra* n. 31, at 34. The ABA surveyed lawyers nationally for this study, including those who worked for firms of 25 or more attorneys at some point in their legal career. The final response group included 920 attorneys. *Id.* at 5–6.

70. *Id.* at 33.

71. *Id.*

male attorneys often had stay-at-home wives who could take care of many things for them.⁷²

In addition, the gender divide between men and women when it comes to household duties persists, exacerbating work-life balance issues for women. General time use studies suggest that working women generally perform more household work than their full-time working male peers. In particular, married mothers who work full-time are more likely to engage in household activities, primary childcare, and the purchasing of goods and services on an average day than married fathers who work full-time.⁷³ An analysis of the data acquired by the American Time Use Survey⁷⁴ between 2003 and 2006 shows that working fathers spent one hour more at work each day than did working mothers (9.1 hours compared to 8.1 hours).⁷⁵ The working mothers spent nearly double the time on household activities (1.5 hours/day) that working fathers did (0.8 hours/day), but working dads spent more time on leisure and sports activities than working moms (2.9 hours/day compared to 2.3 hours/day).⁷⁶ This study also showed that children aged five and younger were the most time intensive for their working moms. Full-time working mothers spent close to 2.5 hours per day on weekdays providing primary childcare, whereas working fathers spent 1.3 hours per day on weekdays providing primary childcare for a child five years old or younger.⁷⁷ The data for 2012 shows that married women living with children under six who work full-time spend 1.3 hours/day on household activities and 2.0 hours/day on caring for household children.⁷⁸ Compared to women who work part-time or are not employed, these women sleep, on average, the least.⁷⁹ Of course, none of these statistics are particular to lawyers. However, they do give a sense of the overall disparity in household and childcare duties that persist based on sex even among full-

72. *Id.*

73. Mary Dorinda Allard & Marianne Janes, *Time Use of Working Parents: A Visual Essay*, 131 *Mthly. Lab. Rev.* 3, 6 (June 2008) (For childcare, 71% of married mothers reported engaging in childcare on an average day, whereas 55% of fathers did so.).

74. The American Time Use Survey is a “federal administered, continuous survey on time use in the United States sponsored by the Bureau of Labor Statistics and conducted by the U.S. Census Bureau.”; Mathias Basner et al., *American Time Use Survey: Sleep Time and Its Relationship to Waking Activities*, 30 *SLEEP* 1085, 1086 (2007).

75. Allard & Janes, *supra* n. 73, at 7.

76. *Id.*

77. *Id.* at 10. Interestingly, the more educated the parents, the more time they spent on primary childcare if they had children aged 12 or younger (although the study only considered those with a bachelor’s degree or higher). *Id.* at 11.

78. Bureau of Labor Statistics, *Weekday Time Use of Married Women Living with Young Children, by Employment Status* (2012) (available at <http://www.bls.gov/tus/charts/chart2.pdf>).

79. *Id.* They slept an average of 7.8 hours/night. Women working part-time or not employed slept 8.2 and 9.0 hours/night, respectively.

time working parents. There's no reason to believe lawyers will not display similar sex-related time use patterns when it comes to household activities.

Interestingly, even women at the pinnacle of the legal profession—women judges—report conflict between work and family roles. In a study exploring the differences in the experiences of men and women judges, political scientist Elaine Martin found that a majority of female judges (62.9%) felt conflict between their career and parenting roles, whereas a majority of male judges (52.9%) *rarely* felt such conflict.⁸⁰ Nearly two-thirds of these women judges had primary responsibility for running their households.⁸¹ Very few studies of women lawyers ask this question: who runs the household? Yet, it is likely that women lawyers with children, like women judges, have this responsibility. The responsibility of making sure there is food in the house, that lunches are made, that bathrooms are clean, and that doctors' and dentists' appointments are made and kept often falls on the woman in a household. These added responsibilities are difficult to quantify, but certainly take up both time and mental energy for many women lawyers.

It is easy to see how high billable hour requirements only exacerbate work-life balance issues. Women lawyers who are already strapped for time will be under additional pressure if they are required to bill large numbers of hours. As I explain below, an 1,800 billable hour requirement—a rather low requirement by today's standards—means many more hours in the office. This leads to lawyers finding there is barely enough—or in some instances not enough—time in the day to manage family obligations and meet work demands. I'd posit that the other factors that affect women's success in firms—such as mentoring opportunities, poor assignments, etcetera—combined with work/family conflicts create a synergy that results in women seeking out jobs that are more accommodating to their competing responsibilities and joys. I know that, for me, it was this combination that led to my career shift to academia and the flexibility it provides.⁸²

C. *Diversity and High Drop-Out Rates Affect the Pocketbooks of both Law Firms and Consumers of Legal Services*

Research estimates that attorney attrition costs law firms between \$200,000 and \$500,000.⁸³ Many associates do not become profitable for

80. Elaine Martin, *Men and Women on the Bench: Vive La Difference?*, 73 *Judicature* 204, 205 (1990) (emphasis added).

81. *Id.* at 206 (only 14.3% of male judges ran their households).

82. While academia does require hard work, it provides flexibility as to when that work is done. For example, I'm sitting here drafting this section on Memorial Day, a day when most Americans do not work.

83. The Center for Women and Work et al., *supra* n. 42, at 1.

several years.⁸⁴ Thus, for associates who leave firms early in their careers, firms have lost money on the hire. Another area of loss for the corporate client is when an associate or partner who has worked well for that client leaves the firm for (hopefully) greener pastures. Not only has the client lost a lawyer who already understands how the client's business works or the details of a particular case, but the client also may end up paying the cost of educating a new associate or partner about its business or a particular case. Corporate counsel are aware of the impact of associate retention. Indeed, the Federation of Defense and Corporate Counsel recently issued a report entitled *Finders and Keepers: How to Attract and Retain Top Level Associates*.⁸⁵ Even when a firm is willing to write off the additional expense of bringing a new lawyer up to speed, the firm itself incurs costs for which it will not receive compensation. Thus, it is in both law firms' and clients' interests to retain talented female associates.

III. THE EFFECTS OF HIGH BILLABLE HOUR REQUIREMENTS ON THE EFFICACY OF LAWYER FUNCTIONING

A. *How Much Do Lawyers Work?*

Studies on sleep deprivation and sleep restriction are only relevant to lawyers if they in fact are sometimes working under conditions of sleep deprivation and/or sleep restriction. This leads to the elusive question of how much lawyers actually work. I say this is elusive, because while law firms often provide incoming associates and partners with "targets," how much lawyers actually work is tough to estimate.

The National Association for Law Placement ("NALP") asks law firms to include the average annual associate hours worked as well as the average associate billable hours.⁸⁶ However, law firms are not required to provide this information, and many do not.⁸⁷ NALP's aggregate data for law firms

84. See NALP Found. for Research & Educ., *Keeping the Keepers: Strategies for Associate Retention in Times of Attrition* 9-10 (1998); Task Force on Prof. Challenges & Fam. Needs, Boston Bar Assn., *Facing the Grail: Confronting the Cost of Work or Work-Family Imbalance* 8 (explaining associates do not become profitable until their third or fourth year); Karen Neal & Cynthia Sellers, *The Advancement of Women in the Private Practice of Law and Why Guys Should Care*, 45 Tenn. B.J. 20, 21 (2009) ("it takes several years for an associate to become profitable to the firm"); David B. Wilkins, "If You Can't Join 'Em, Beat 'Em!" *The Rise and Fall of the Black Corporate Law Firm*, 60 Stan. L. Rev. 1733, 1784 (2008) (noting "associates become profitable as midlevel or senior associates").

85. The Assoc. Retention Comm., Fedn. of Def. and Corp. Counsel, *Finders and Keepers: How to Attract and Retain Top Level Associates* (Feb. 14, 2008).

86. NALP provides this data online for any law firm that responds to its questionnaire through NALP's website (available at <http://www.nalpdirectory.com>). This site permits users to locate a particular law firm and browse a variety of information about the firm, including a link to "hours and lifestyle."

87. For example, when looking at Baker & McKenzie's Chicago office data, you will see a billable hour requirement of 2000/year and a minimum target of 167/month. However, the firm provides no data

that actually reported this information (555 total law firms for 2009) showed average total hours worked: for firms of 701 or more attorneys at 2,076 (128 firms reporting); for firms of 510–700 lawyers at 2,087 (50 firms reporting); and for firms of 251–500 lawyers at 2,110 (107 firms reporting).⁸⁸ In other words, at larger firms, lawyers were working around 2,100 hours/year. However, smaller firms do not provide much relief. For firms of between 1 and 250 lawyers, the averages ran from 1,956 to 1,994 (270 firms reporting).⁸⁹ Interestingly, this number has declined for firms of over 500 attorneys since 2007 and 2008.⁹⁰ The overall average for all firms reporting was 2,032—a decrease from 2007 and 2008.⁹¹ In terms of billable hours, NALP places the range for 2009 from 1,801 to 1,729, with an average of 1,771 (578 firms reporting).⁹²

This does not sound too bad. However, calculators for how much an attorney would have to work in order to meet such goals show that days might get rather long and work weeks may include weekends, especially if one wishes to take vacations. Yale Law School has developed a document called *The Truth About the Billable Hour*.⁹³ In it, they look at what a lawyer's average day would look like if he or she were required to bill 1,800 hours/year and 2,200 hours/year. They included commuting to work as well as vacations, holidays, and other things a lawyer might do (like eat lunch).⁹⁴ Given these parameters, they posit that an associate who has an 1,800 hour billable target must be “at work” (a definition that includes everything) 2,420 hours per year. If you include a thirty minute commute each way, they estimate the associate will be “working” from 7:30 a.m. until 6:50 p.m.⁹⁵ The 2,200 hour billable hour requirement associate has a much tougher road. He or she must “work” 3,058 hours in order to bill 2,201 hours.⁹⁶ As an aside, this equates to the amount of time workers in industrialized countries worked in 1870—an era characterized by sweatshops that

as to actual hours billed or worked. NALP, *Directory of Legal Employers*, http://www.nalpdirectory.com/dledir_search_results.asp.employer_profile?FormID=2225&QuestionTabID=39&SearchCondJSON{%22SearchEmployerName%22%3A%22Baker%20%McKenzie%26%2022} (accessed Oct. 20, 2013).

88. NALP, *Number of Associate Hours Worked Declines*, NALP Bulletin tbl. 1 (Feb. 2011) (available at http://www.nalp.org/assoc_hrs_feb2011?s'associate%20hours%20worked%20declines).

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.* at tbl. 2.

93. Yale L. Sch. Career Office, Dev. Off., *The Truth About the Billable Hour* (July 2007) (available at http://www.annaivey.com/system/files/Billable_Hour.pdf).

94. *Id.*

95. *Id.*

96. *Id.*

gave rise to the American labor movement.⁹⁷ With a thirty minute commute, this means working 7:30 a.m. until 8:30 p.m. Monday through Friday and three Saturdays each month from 9:30 a.m. until 5:30 p.m. (except for November and December—holiday months during which the Yale calculator gave associates Saturdays off).⁹⁸

Note the difference between the Yale calculations and the data reported to NALP. The Yale calculations have lawyers working 620 additional hours each year than they bill to meet a 1,800 billable hour requirement, and 857 additional hours each year than they bill to meet a 2,200 billable hour requirement. The differences between worked and billed hours reported to NALP were on average 2,032 hours worked to 1,771 hours billed—a difference of only 361 hours.⁹⁹ Other commentators have argued lawyers generally need to work three hours for every two hours billed.¹⁰⁰ If that is accurate, a 2,000 hour billable hour requirement leads to 3,000 hours worked. On average, this would lead to a 12-hour day.¹⁰¹ In 2001, the ABA generously suggested a 1,900 billable hour requirement that led to 2,300 hours actually worked when one factored in law firm service, pro-bono work, client development, professional development, and service to the profession (don't forget those ABA committees!).¹⁰² That comes closer to the Yale averages, although the ABA did not consider commuting time.

These, of course, are averages. Many lawyers do not have the luxury of working “on average” a particular set of hours on a given day. Even if they did, this average hour assessment would have implications for chronic sleep restriction. For example, if a lawyer begins her commute at 7:30 a.m., that likely means she is getting out of bed around 6:30 a.m. If the lawyer ends her day by getting home at 6:50 p.m., that is not the end of her duties. If the lawyer is a mother or a father, there are children to feed, bathe, and get to sleep. In addition, it is unlikely that a lawyer with children would be able to arrive at work by 7:30 a.m. Kids need to be woken up, fed, dressed, and brought to school or daycare in the mornings. For lawyers with older children, evenings involve making sure homework is done and going through backpacks to look for the inevitable permission slips and school news. Those working under the 2,200 hour billable goal are not getting

97. Gerhard Bosch & Steffen Lehndorff, *Working-Time Reduction and Employment: Experiences in Europe and Economic Policy Recommendations*, 25 *Cambridge J. Econ.* 209, 214 (2001) (noting such workers worked between 2,900 and 3,000 hours/year).

98. Yale L. Sch. Career Dev. Off., *supra* n. 93.

99. NALP, *supra* n. 88, at tbls. 1 & 2.

100. Niki Kuckes, *The Hours: The Short, Unhappy History of How Lawyers Bill Their Clients*, *Leg. Affairs* 3 (Sept./Oct. 2002) (available at http://legalaffairs.org/issues/September-October-2002/review_kuckes_sepoct2002.msp).

101. *See id.* at 3.

102. *Id.* at 4.

home until 8:30 p.m. If they have children, someone else has fed, bathed, and clothed them. And, getting home at 8:30 p.m. wired from work makes it difficult to get right to sleep. Of course, the lawyer still has not eaten dinner, done the dishes, or considered the laundry. It's easy to see how one might end up getting to bed at midnight, only to turn around and start again at around 6 a.m. Anecdotally, I remember one night when, by the time I got dinner on the table, my 18-month old daughter was so tired that she literally fell asleep face down in her chicken pot pie while sitting in her high chair. Needless to say, I was exhausted as well.

There are other events and obligations that have implications for “second shift” lawyers—mainly women—who have significant child care responsibilities. There are the field trips, conferences with teachers, school open houses, and class parties. I remember my older son asking me why I worked. He wanted to know why I wasn't like his other friends' moms who could come to all the parties at school and go to PTA meetings. A day off at the zoo on a class field trip translates into hours of work that have to be made up somewhere—either through longer days or weekend work. And, if you do not make time for your children, you risk the experience my then husband—who, like me, worked at a large firm—had with our daughter. When she was eight or nine months old, I handed her to him to hold for a moment while I did something else. My daughter immediately began crying. In response to his comment that “the baby doesn't like me,” I explained to him, “The baby doesn't know you.” It's unreasonable to ask lawyers to risk not developing meaningful bonds and relationships with their children in order to bill more hours.

Of course, working an “average” number of hours each day consistently is highly unlikely. We all know that lawyers also pull “all-nighters” in response to upcoming deadlines—although it is impossible to know how often lawyers do this. All-nighters implicate sleep deprivation studies particularly.

B. *Sleep Studies*

Sleep deprivation affects the ability of human beings to function on numerous levels, including in their work. Indeed, the United States Surgeon General's office has estimated the costs of sleep deprivation at \$65 billion annually in health care costs and lost productivity in the United States alone.¹⁰³ To provide one very salient example, the commission that studied

103. Kimberly A. Babson et al., *A Test of the Effects of Acute Sleep Deprivation on General and Specific Self-Reported Anxiety and Depressive Symptoms: An Experimental Extension*, 41 *J. Behav. Therapy & Experimental Psych.* 297, 297 (2010) (citing Text of Remarks of VADM Richard H. Carmona, MD, MPH, FACS, United States Surgeon General, *Frontiers of Knowledge in Sleep & Sleep*

the Space Shuttle Challenger disaster concluded that sleep deprivation was one of the factors that contributed to the mistakes made that led to the disaster.¹⁰⁴ Thus, the implications of sleep deprivation can be grave.

What is meant by sleep deprivation? The normal amount of sleep necessary for healthy adults is generally, on average, seven to eight hours per night.¹⁰⁵ Chronic sleep restriction, also known as chronic sleep deprivation, occurs when people sleep less than seven hours per night.¹⁰⁶ Others have placed the minimum amount necessary at approximately six hours per night.¹⁰⁷ However, there is a significant amount of individual variation in terms of how much sleep a particular person needs as well as how tolerant a person is to sleep deprivation or restriction.¹⁰⁸ This has led researchers to opine that the ability to function under sleep deprived conditions is “trait-like”—in other words, genetic.¹⁰⁹

Interestingly, scientists initially thought that having less than seven hours of sleep per night, while making people feel sleepier, did not have an effect on cognitive performance for certain jobs or tasks.¹¹⁰ Scientists generally thought that monotonous, repetitious tasks were affected by sleep restriction or total deprivation, but high-level job performance was not.¹¹¹

Disorders: Opportunities for Improving Health and Quality of Life (Mar. 29, 2004) (available at http://www.nhlbi.nih.gov/meetings/slp_carmona.pdf).

104. Yvonne Harrison & James A. Horne, *The Impact of Sleep Deprivation on Decision Making: A Review*, 6 *J. Experimental Psychol. Applied* 236, 247 (2000).

105. Siobhan Banks & David F. Dinges, *Chronic Sleep Deprivation*, in *Principles and Practice of Sleep Medicine* 67, 67–68 (Meir H. Kryger, Thomas Roth & William C. Dement, eds., 5th ed., Elsevier 2011).

106. *Id.* at 67.

107. Jolanta Orzel-Gryglewska, *Consequences of Sleep Deprivation*, 23 *Int'l J. Occupational Med. & Env'tl Health* 95, 97 (2010).

108. See Banks & Dinges, *supra* n. 105, at 67 (noting high subject variance, and opining that sleep duration is influenced by environment, genetics, and societal factors); Charles A. Czeisler, *Medical and Genetic Differences in the Adverse Impact of Sleep Loss on Performance: Ethical Considerations for the Medical Profession*, 120 *Transactions of Am. Clinical & Climatological Assoc.* 249, 249–250 (2009) (noting individual differences in tolerance to sleep deprivation); Jeffrey S. Durmer & David F. Dinges, *Neurocognitive Consequences of Sleep Deprivation*, 25 *Seminars in Neurology* 117, 123 (2005) (“[T]here are substantial interindividual differences not only in basal sleep need but also in resistance to and vulnerability to the cognitive effects of sleep loss.”); Orzel-Gryglewska, *supra* n. 107, at 97 (noting some people need only three–five hours of sleep, while others need at least eight); Travis H. Turner et al., *Effects of 42 Hr of Total Sleep Deprivation on Component Processes of Verbal Working Memory*, 21 *Neuropsychology* 787, 792 (2007) (study in which they identified individuals upon whom total sleep deprivation had a small impact and those most affected).

109. Durmer & Dinges, *supra* n. 108, at 125; Banks & Dinges, *supra* n. 105, at 72 (noting it has been claimed differences are due to trait, but this has not yet been widely researched).

110. Banks & Dinges, *supra* n. 105, at 67.

111. See Harrison & Horne, *supra* n. 104, at 237; Julian Lim & David F. Dinges, *A Meta-Analysis of the Impact of Short-Term Sleep Deprivation on Cognitive Variables*, 136 *Psychol. Bull.* 375, 375–376 (2010) (describing the “controlled attention” model that accounts for this supposed phenomenon); Jens P. Nilsson et al., *Less Effective Executive Functioning After One Night's Sleep Deprivation*, 14 *J. Sleep Res.* 1, 1 (2005).

The idea was that “under demanding and motivating conditions, [sleep deprivation] will have little impact on high-level decision making or complex skills.”¹¹² Indeed, early studies on “executive tasks” were equivocal on the effects of sleep deprivation.¹¹³ However, many of these early studies had methodological weaknesses that affected their validity.¹¹⁴ Adequate studies of the effects of sleep deprivation and restriction on what is sometimes referred to as “executive functioning” are of recent vintage. As one set of researchers explain, it has only been since 1997 that studies “have documented cumulative objective changes in neurobehavioral outcomes as sleep restriction progressed.”¹¹⁵ It was also thought that people could adapt to less sleep. However, studies suggest that while people believe they are less sleepy (in other words, they think they are adapting), there is no adaptation in cognitive performance—it still suffers as a result of sleep restriction.¹¹⁶

There are two areas of sleep research that have significance for the manner in which lawyers work. The first are general studies about the effects of sleep deprivation and partial sleep restriction (sleeping less than an optimal amount on a regular basis) on the ability of human beings to function on multiple dimensions, including communicating, reasoning, attention, mood, working memory, executive functioning and emotion recognition, to name just a few areas that researchers have studied. In addition, studies of medical interns and residents might have particular relevance to the work of associates, who, like these entry-level doctors, pull “all-nighters.” I am aware of no studies about the effects of sleep deprivation on the ability of lawyers to function. However, a review of the studies conducted in these two areas provides some insight into how sleep deprivation (i.e., staying up all night) or partial sleep restriction (sleeping less than optimal amounts on a continuous basis), might affect the ability of lawyers to perform at their jobs.

1. General Sleep Studies

There are many studies on the effect of total sleep deprivation as well as a lesser number of studies on the effect of partial sleep restriction on the

112. Harrison & Horne, *supra* n. 104, at 237.

113. See K. Jones & Y. Harrison, *Frontal Lobe Function, Sleep Loss and Fragmented Sleep*, 5 *Sleep Med. Rev.* 463, 468 (2001) (summing up early studies).

114. *Id.* (describing problems with early studies); Siobhan Banks & David F. Dinges, *Behavioral and Psychological Consequences of Sleep Restriction*, 3 *J. Clinical Sleep Med.* 519, 520–521 (2007) (discussing methodological problems with early studies); Banks & Dinges, *supra* n. 105, at 67.

115. Banks & Dinges, *supra* n. 105, at 67 (footnote omitted).

116. *Id.* at 68.

ability of people to function.¹¹⁷ The two forms of decreased sleep function slightly differently, but result in similar deficits. Studies on sleep deprivation and restriction have found deficits in: communication and verbal fluidity;¹¹⁸ reasoning;¹¹⁹ interpersonal skills, including reading another's emotions;¹²⁰ mistakes and error monitoring;¹²¹ time to complete tasks;¹²² moral judgments;¹²³ focused attention;¹²⁴ risk taking;¹²⁵ mood;¹²⁶ memory, including what is known as working memory;¹²⁷ and cognitive and executive functioning.¹²⁸ As one source summed up:

Studies show that, in general, sleep deprivation impairs performance of a wide range of cognitive tasks and sensory functions, such as mental arithmetic, logical reasoning, memory, vigilance, and meta-cognition. The detrimental effects of sleep deprivation on cognition, motor performance, and mood have also been documented by meta-analyses and other reviews Research has shown that tasks that are dependent on the prefrontal cortex are particularly sensitive to loss of sleep, indicating a neuroanatomical localization of the observed cognitive impairments.¹²⁹

Thus, sleep deprivation affects a wide range of human behavior.

117. See Durmer & Dinges, *supra* n. 108, at 119 (noting “[t]here are literally hundreds of published studies of the effects of total sleep deprivation, but many fewer on the effects of partial sleep deprivation, and only a handful on the effects of chronic partial sleep restriction.”).

118. See Orzel-Gryglewska, *supra* n. 107, at 100 (describing study results); Harrison & Horne, *supra* n. 104, at 241.

119. See Orzel-Gryglewska, *supra* n. 107, at 100; Clare Anderson & David L. Dickinson, *Bargaining and Trust: The Effects of 36-h Total Sleep Deprivation on Socially Interactive Decisions*, 19 J. Sleep Res. 54, 55, 61 (2010) (study suggesting reasoning becomes impaired and decisions become more emotion-based than reason-based).

120. See Els van der Helm, Ninad Gujar & Matthew P. Walker, *Sleep Deprivation Impairs the Accurate Recognition of Human Emotions*, 33 SLEEP 335, 339 (2010) (study showing blunting of recognition of emotions due to sleep deprivation).

121. See Shulan Hseih, Tzu-Hsien Li & Ling-Ling Tsai, *Impact of Monetary Incentives on Cognitive Performance and Error Monitoring Following Sleep Deprivation*, 33 SLEEP 499, 499 (2010) (summarizing studies showing error monitoring problems).

122. See Orzel-Gryglewska, *supra* n. 107, at 106 (summarizing study results).

123. See Olav Kjellevoll Olsen, Stale Pallesen & Jarle Eid, *The Impact of Partial Sleep Deprivation on Moral Reasoning in Military Officers*, 33 SLEEP 1086, 1088–1089 (2010) (study showing sleep deprived individuals “showed strong impairment of their ability to activate autonomous and principle-oriented moral reasoning in the sleep deprived compared to the rested condition . . .”).

124. See Harrison & Horne, *supra* n. 104, at 246 (summing up studies); Durmer & Dinges, *supra* n. 108, at 120; Lim & Dinges, *supra* n. 111, at 376.

125. See Harrison & Horne, *supra* n. 104, at 239.

126. *Id.* at 239–240 (summarizing studies); Durmer & Dinges, *supra* n. 108, at 120 (noting a study that found “mood and cognition were found to be more affected by partial sleep deprivation than total sleep deprivation”).

127. See Travis H. Turner et al., *supra* n. 108, at 787 (“the preponderance of evidence from the literatures suggests WM [working memory] performance declines following 20 or more hours of total sleep deprivation”) (citation omitted).

128. See Nilsson et al., *supra* n. 111, at 5 (study showing decrease in executive functioning after one night’s sleep deprivation); Durmer & Dinges, *supra* n. 108, at 109 (summarizing studies).

129. Olsen, Pallesen & Eid, *supra* n. 123, at 1086.

Of particular interest are the links between sleep deprivation and prefrontal cortex (“PFC”) functioning. “The PFC directs, sustains, and focuses attention to the task in hand by disregarding competing distraction and is the executive coordinator of many cortical events. In particular, it deals with novelty and the unexpected The PFC is responsible for divergent, innovative, and flexible thinking, as well as memory for contextual details, such as temporal memory.”¹³⁰ There are two sections of the PFC implicated in sleep deprivation studies. One area, the dorsolateral prefrontal cortex is “primarily involved in executive functions. These include working memory, judgment, planning, sequencing of activity, abstract reasoning and dividing attention.”¹³¹ The other section—the orbitomedial prefrontal cortex is “involved in impulse control, personality, reactivity to the surroundings and mood.”¹³² People rely less on the PFC for routine tasks,¹³³ although routine tasks also suffer if the person completing them is sleep deprived.¹³⁴

Researchers have estimated the overall effects of sleep deprivation using meta-analyses of the many studies on this phenomenon. Durmer and Dinges explain that, while “[m]eta-analysis suggests that the effects of sleep deprivation on feelings of fatigue and related mood states are greater than effects on cognitive performance or motor functions,” if all three measures are combined together, “the mean functional level of any sleep-deprived individual is estimated to be comparable to the 9th percentile of non-sleep-deprived subjects.”¹³⁵ Another study found that after 24–30 hours of sleep deprivation, the average person’s cognitive performance dropped from the 50th to the 15th percentile of performance while rested.¹³⁶ Looking at it from another perspective, “With regard to such parameters as the concentration of attention, reflexes, perceptiveness and accuracy of task performance, the effects of a 24-hour sleep deprivation, or of a four to five hour night sleep repeated over a period of one week, are similar to those induced by the [.05%–.1%] level of blood alcohol concentration.”¹³⁷

130. Harrison & Horne, *supra* n. 104, at 246 (citation omitted).

131. Rand S. Swenson, *Review of Clinical and Functional Neuroscience* ch. 6 (Dartmouth Medical School 2006) (available at http://www.dartmouth.edu/~rswenson/NeuroSci/chapter_11.html).

132. *Id.*

133. *Id.*

134. See Nilsson et al., *supra* n. 111, at 1; Harrison & Horne, *supra* n. 104, at 237 (noting that once complex tasks become routine they become vulnerable to sleep deprivation).

135. Durmer & Dinges, *supra* n. 108, at 120 (endnotes omitted).

136. See Charles A. Czeisler, *Medical and Genetic Differences in the Adverse Impact of Sleep Loss on Performance: Ethical Considerations for the Medical Profession*, 120 *Transactions of the Am. Clinical and Climatological Assn.* 249, 251 (2009) (citing and describing meta-analysis). Interestingly, this study also showed that clinical performance by doctors dropped from the 50th to the 7th percentile of their performance while rested. *Id.*

137. Orzel-Gryglewska, *supra* n. 107, at 107 (endnotes omitted); see also Ingrid Philbert, *Sleep Loss and Performance in Residents and Nonphysicians: A Meta-Analytic Examination*, 28 *SLEEP* 1392, 1392

One of the areas of particular concern for lawyers is what is known as “executive function[ing],” which researchers have defined as “the ability to plan and coordinate a willful action in the face of alternatives, to monitor and update action as necessary and suppress distracting material by focusing attention on the task at hand.”¹³⁸ While this was initially an area thought resistant to sleep deprivation, recent studies have suggested that it too is susceptible to impairment.¹³⁹ Executive functioning generally comes from the prefrontal cortex, so it is unsurprising that sleep deprivation would affect executive functioning. Research has shown that as little as 24 hours of sleep loss can reduce activity in the PFC.¹⁴⁰ In a study by Killgore, Balkin and Wesensten, they found that 49.5 hours of total sleep deprivation resulted in impaired performance in a game that required players to adjust their strategies toward long term gains at the expense of short term goals. As they explained, “When compared to their resting performance, sleep-deprived volunteers in our study appeared less able to weigh the immediate benefits of short-term rewards against the greater costs of long-term penalties, a cognitive ability that appears to rely heavily on the integrity of the prefrontal cortex.”¹⁴¹ This occurred even with a financial incentive; test subjects were told they would receive up to a \$500 bonus for better performance on the test.¹⁴²

Similarly, Harrison and Horne investigated the effect of one night of sleep loss on the ability of participants to play a complex, innovative decision-making business game. Of particular importance to success in the game was the ability of a player to update him or herself and remember changing events.¹⁴³ They used this game in an attempt to investigate the effects of sleep deprivation on a “‘real word’ [sic] task that was complex, dynamic, and intrinsically stimulating. It was able to tap flexible, innovative thinking and the ability to update plans in the light of changing information.”¹⁴⁴ While the players coped relatively well for up to about 30 hours of sleep deprivation, at that point, their play began to suffer. They eventually

(2005) (noting studies demonstrating 24 hours of sleep loss equated to the effect of a .1% blood alcohol concentration).

138. K. Jones & Y. Harrison, *Frontal Lobe Function, Sleep Loss and Fragmented Sleep*, 5 *Sleep Med. Rev.* 463, 464 (2001).

139. See e.g., Durmer & Dinges, *supra* n. 108, at 120–121; Nilsson et al., *supra* n. 111, at 5 (“[T]he present study has demonstrated that one night of sleep loss impairs integrative executive functioning. This may be of special importance for individuals with cognitive work tasks.”).

140. See William D. Killgore, Thomas J. Balkin & Nancy J. Wesensten, *Impaired Decision Making Following 49 H of Sleep Deprivation*, 15 *J. Sleep Res.* 7, 7 (2006).

141. *Id.*

142. *Id.* at 9.

143. Y. Harrison & J.A. Horne, *One Night of Sleep Loss Impairs Innovative Thinking and Flexible Decision Making*, 78 *Organizational Behavior & Human Dec. Processes* 128, 130 (1999).

144. *Id.* at 140.

were unable to maintain their profitability or became bankrupt. On the other hand, non-sleep deprived subjects maintained their profitability.¹⁴⁵ Interestingly, sleep deprived subjects reported that they became less interested and “increasingly distracted by peripheral concerns.”¹⁴⁶ Like the Kilgore et al., study participants, the participants were provided a financial incentive to perform well on the game.¹⁴⁷ Sleep deprivation had no effect on critical reasoning; the participants were given the GMAT under sleep deprived and non-sleep deprived conditions and their scores remained similar.¹⁴⁸ The researchers explained that subjects could take in the information provided by the game, but were “unable to act on it successfully.”¹⁴⁹ Relatedly, Couyoumdjian et al., found that one night of sleep deprivation impaired the ability of subjects to task switch—the “ability to shift between different cognitive tasks, i.e. to adjust behavior rapidly and flexibly to changing environmental demands.”¹⁵⁰

Other studies have found sleep deprivation causes impairments to various other human behaviors that appear important to a lawyer’s ability to do his or her job. One area that’s significant is focused attention. As Orzel-Gryglewska explained, “In the course of prolonged wakefulness, the concentration of attention becomes impaired, the thoughts are distracted and the microepisodes of sleep are longer. Such effects lead to decreased accuracy and effectiveness of work performance as well as impaired cognitive processing.”¹⁵¹ This is likely due to the link between attention and the PFC, as “[t]he PFC has a unique executive attention role in actively maintaining access to stimulus representations and goals in interference-rich contexts.”¹⁵² In a meta-analysis of short term sleep deprivation, Lim and Dinges found the largest effects of 24–48 hours of sleep deprivation on vigilance or simple attention.¹⁵³ In addition, they found moderate effect sizes on tests of complex attention and working memory.¹⁵⁴

Deficits in working memory caused by sleep deprivation have implications as well for the work lawyers do. “Working memory involves the ability to hold and manipulate information”¹⁵⁵ Working memory deficits

145. *Id.* at 141.

146. *Id.*

147. *Id.* at 131.

148. *Id.* at 135.

149. Harrison & Horne, *supra* n. 143, at 141.

150. Alessandro Couyoumdjian et al., *The Effects of Sleep and Sleep Deprivation on Task-Switching Performance*, 19 *J. Sleep Research* 64, 69 (2010).

151. Orzel-Gryglewska, *supra* n. 107, at 100 (footnotes omitted).

152. Durmer & Dinges, *supra* n. 108, at 120 (footnotes omitted).

153. Lim & Dinges, *supra* n. 111, at 383.

154. *Id.*

155. Durmer & Dinges, *supra* n. 108, at 121.

have broad implications for neurocognitive performance, as Durmer and Dinges explain:

Deficits in neurocognitive performance requiring working memory result in difficulty determining the scope of a problem due to changing or distracting information; remembering temporal order of information; maintaining focus on relevant cues; maintaining flexible thinking; taking inappropriate risks; having poor insight into performance deficits; perseverating on thoughts and actions; and problems making behavioral modifications based on new information. Sleep deprivation therefore appears to adversely affect prefrontal cortex-related executive attention and working memory abilities.¹⁵⁶

People also have verbal and communication problems as a result of sleep deprivation. In one study on the effects on speech, subjects who were kept awake for 36 hours showed a “significant reduction in word fluency.”¹⁵⁷ They also experienced a loss of intonation, meaning that their speech was flattened and dull, “suggest[ing] that the speaker is less interested or involved in what he or she is saying.”¹⁵⁸ Sleep deprivation can have a significant impact on the ability of the sleep deprived person to communicate, as Harrison and Horne explained:

[Sleep deprivation] affects language by reducing verbal spontaneity and word retrieval and alters articulation and other vocal characteristics. Also, SD [sleep deprived] participants may be less willing to volunteer factual details, may appreciate less the importance of doing so, or may have less empathy with colleagues’ ignorance of vital information. All this can impair the accurate transmission of ideas between colleagues and impact conversational flow¹⁵⁹

Other interpersonal skills suffer as well. Studies have found decreases in emotional intelligence as a result of sleep deprivation¹⁶⁰ and negative effects on mood. “Irritability, impatience, childish humor, lack of regard for normal social conventions, and inappropriate interpersonal behaviors have all been described anecdotally in experimental settings of SD [sleep deprivation].”¹⁶¹ Indeed, in a study involving evaluations of emotionally neutral pictures, subjects who experienced one night of sleep deprivation evaluated neutral pictures “in a more negative way when compared to well-rested

156. *Id.* (citations omitted).

157. Y. Harrison & J.A. Horne, *Sleep Deprivation Affects Speech*, 20 SLEEP 871, 875 (1997).

158. *Id.* at 876.

159. Harrison & Horne, *supra* n. 104, at 241.

160. See Orzel-Gryglewska, *supra* n. 107, at 104 (citing and describing studies).

161. Harrison & Horne, *supra* n. 104, at 239 (citations omitted).

subjects.”¹⁶² Sleep deprivation even has been found to impair moral judgments.¹⁶³

Circadian rhythm also plays a role in how one functions at various times during the day and night. As one group of researchers described, “[c]ircadian influence produces an oscillatory pattern of performance related to time of day or in phase with a marker of the circadian clock, for example body temperature or melatonin rhythms.”¹⁶⁴ All living organisms respond to circadian rhythms. In human beings, the sleep-wake cycle is a circadian rhythm that has significant effects on functioning. In particular:

The neural processes that control alertness and sleep produce an increased sleep tendency and diminished capacity to function during the early morning hours (circa 2 [a.m.] to 7 [a.m.]) and, to a lesser extent, during a period in the mid-afternoon (circa noon to 5 [p.m.]). This period during the very early morning hours corresponds to the period of minimum core body temperature and high levels of melatonin.¹⁶⁵

Disturbances in the sleep-wake cycle caused by shift work or jet lag result in a variety of symptoms, including “malaise, fatigue, gastrointestinal distress, and poor mood”¹⁶⁶ Researchers have found that circadian rhythms affect alertness,¹⁶⁷ manual dexterity speed, serial search, verbal reasoning, and working memory tasks,¹⁶⁸ as well as logical reasoning tasks.¹⁶⁹ As one source summed up, “[a]lertness and performance have a rhythmicity with a maximum in the late afternoon and a trough around 5 [a.m.]”¹⁷⁰ These deficits have had significant implications for a variety of industries, including railroads, which report peaks of driver errors between 3 and 6 a.m. and 1 and 3 a.m., and nuclear power plants.¹⁷¹ Interestingly, the Three Mile Island incident occurred at 4 a.m., and the nuclear catastrophe at Chernobyl, which officially resulted from human error, began at 1:23

162. Daniela Tempesta et al., *Lack of Sleep Affects the Evaluation of Emotional Stimuli*, 82 *Brain Res. Bull.* 104, 107 (2010).

163. Olsen, Pallesen & Eid, *supra* n. 123, at 1089 (study of military cadets “showed strong impairment of their ability to activate autonomous and principle-oriented moral reasoning in the sleep deprived compared to the rested condition”).

164. Pablo Valdez et al., *Circadian Rhythms in Components of Attention*, 36 *Biological Rhythm Research* 57, 58 (2005) (citation omitted).

165. Gloria Kuhn, *Circadian Rhythm, Shift Work, and Emergency Medicine*, 37 *Annals of Emerg. Med.* 88, 90 (2001) (footnote omitted).

166. *Id.* (footnote omitted).

167. *See e.g.* Valdez et al., *supra* n. 164, at 62.

168. *See e.g.* Timothy H. Monk & Julie Carrier, *A Parallelism Between Human Body Temperature and Performance Independent of the Endogenous Circadian Pacemaker*, 13 *J. Biological Rhythms* 113 (1998).

169. Timothy H. Monk & Julie Carrier, *Speed of Mental Processing in the Middle of the Night*, 20 *SLEEP* 399 (1997).

170. Kuhn, *supra* n. 165, at 92 (endnote omitted).

171. *Id.* at 93.

a.m.¹⁷² While lawyers' errors do not result in nuclear disasters or train accidents, clients should be skeptical of the quality of work lawyers can perform in the middle of the night. Certainly, paying an hourly rate of \$312 for men and \$259 for women (the average billing rates for lawyers nationwide according to one survey)¹⁷³ for work performed in early morning hours seems unreasonable. Lawyers, like shift workers and those with jet lag, are likely not performing at their peak at this time of day.

Most of the studies and summaries I have referred to above involve total sleep deprivation. While lawyers do occasionally pull "all-nighters," many may simply work long hours on a day-to-day basis. This implicates partial sleep restriction, or, put more simply, getting less sleep than is optimal on a continual basis. This too has implications for a person's ability to function well. Recent studies show that four or more days of partial sleep restriction to less than seven hours of sleep per night "resulted in cumulative adverse effects on neurobehavioral functions. Repeated days of sleep restriction to between 3 and 6 hours of time in bed has been observed to increase daytime sleep propensity, decrease cognitive speed/accuracy as reflected in working memory tasks, and increase lapses of attention on the psychomotor vigilance task."¹⁷⁴ While "[c]ognitive deficits accumulated much more rapidly when no sleep was allowed than when the same amount of sleep was lost more gradually over days of sleep restriction," one study showed that "2 weeks of sleep restriction to 4 hours time in bed per night" led to "deficits in attention, working memory, and cognitive 'throughput' that were equivalent to those seen after 2 nights of total sleep deprivation."¹⁷⁵ This has led one group of researchers to suggest that there is a critical period of stable wake time within each sleep cycle, after which neurocognitive deficits occur. They estimated that the critical period was 15.84 hours awake and 8.16 of sleep to prevent cumulative cognitive deficits.¹⁷⁶ Durmer and Dinges suggest that sleep restriction studies collectively indicate that the critical amount of sleep for healthy adults is less than seven hours per night.¹⁷⁷ As Banks and Dinges sum up well:

All these studies suggest that when time in bed for sleep is chronically restricted to less than 7 hours per night in healthy adults . . . cumulative deficits in a variety of cognitive performance functions become evident. These defi-

172. *Id.*

173. Larry Bodine, Law Marketing Blog, *Women Lawyers Have Lower Billing Rates than Men*, (Apr. 7, 2011) (available at <http://blog.larrybodine.com/2011/04/articles/current-affairs/women-lawyers-have-lower-billing-rates-than-men/>).

174. Durmer & Dinges, *supra* n. 108, at 122–123 (citing studies) (internal citations omitted).

175. *Id.* at 123 (citing and describing study) (internal citations omitted); *see also* Banks & Dinges, *supra* n. 114, at 522–523 (describing several studies of sleep restriction).

176. Durmer & Dinges, *supra* n. 108, at 123 (citing study).

177. *Id.*

cits can accumulate to levels of impairment equivalent to those observed after 1 or even 2 nights of total sleep deprivation.¹⁷⁸

2. *Medical Residents*

The health care industry has studied the effects of sleep deprivation and restriction on the ability of people to perform on the job. In particular, medical schools have become increasingly concerned with the ability of medical residents to perform adequately under conditions of sleep deprivation. This led to adoption of new guidelines in July 2003 that limited residents to 30 consecutive hours of work and no more than 80–88 hours of work per week.¹⁷⁹

It should come as no great surprise, given the general sleep deprivation research, that a study by Landrigan et al., found that the new regulations led to no change in physician error rates.¹⁸⁰ Indeed, in this study, which involved 200 medical resident subjects, 68 residents acknowledged having made a medical error—that’s a third.¹⁸¹ As they summed up:

Physicians-in-training working 24-hour shifts experience performance decrements similar to those induced by blood alcohol levels of 0.05% to 0.10%, with a doubling of intrusive attentional failures at night. This impairment leads to a 1.5– 2-SD [standard deviation] deterioration in their performance on a range of clinical and nonclinical tasks.¹⁸²

“For clinical performance . . . sleep-deprived physicians performed at the seventh percentile of the comparison group.”¹⁸³ It is little wonder that other medical systems have adopted different standards. For example, in the European Union, doctors are limited to thirteen consecutive hours in one day and a maximum of 48–56 hours per week.¹⁸⁴ In addition, the Association of American Medical Colleges recommended in 2001 that physicians in high intensity clinical settings, such as emergency rooms and intensive care units, be limited to no more than 12 consecutive hours in one shift.¹⁸⁵

One area that researchers have studied is omissions in patient care. Like associates, residents often work under high pressure conditions while sleep deprived. In one interesting study that sought to understand the effects of both pressure and inadequate sleep, residents who reported working

178. Banks & Dinges, *supra* n. 105, at 71.

179. Christopher P. Landrigan et al., *Effects of the Accreditation Council for Graduate Medical Education Duty Hour Limits on Sleep, Work, Hours, and Safety*, 122 *Pediatrics* 250, 250–251 (Aug. 2008) (footnote omitted).

180. *Id.* at 254.

181. *Id.*

182. *Id.* at 255; *see also* Philibert, *supra* n. 137, at 1395 (meta-analysis finding nearly one standard deviation—880—in physician performance).

183. Philibert, *supra* n. 137, at 1398.

184. Landrigan, *supra* n. 179, at 251.

185. Czeisler, *supra* n. 108, at 250.

under conditions of both high pressure and insufficient sleep were “eight time[s] more likely to self-report an omission in patient care”¹⁸⁶ The combination of high pressure and insufficient sleep certainly applies to an associate pulling an all-nighter because of an upcoming deadline the next day. It is easy to understand how errors could be made under such circumstances. Indeed, general sleep studies show that the one-two combination of sleep deprivation combined with disruption of normal circadian phase “creates a critical zone of vulnerability in the latter half of the night.”¹⁸⁷ However, instead of becoming more careful because one is more sleepy, individuals tend to “make hasty decisions based on inadequate information. This results in increased rates of errors on selective attention tasks that required a search for targets in the visual field.”¹⁸⁸ In other words, 3 a.m. is not the time to be searching for typos in a brief that must be filed that day.

Another interesting finding with respect to physicians is that not only residents are affected by sleep deprivation. Experienced physicians also experience deficits in performance. In a study that compared performance by attending trauma surgeons and trauma residents pre- and post-call, both groups showed sizable increases in cognitive errors post-call.¹⁸⁹ While experienced doctors performed better post-call than residents, their “performance [was] still significantly impeded as compared with their proficiency in the pre-call condition.”¹⁹⁰ One interesting finding in this study related to caffeine consumption. The doctors were asked to report on their caffeine consumption. The researchers found a correlation ($R=.56$) between errors during post-call and caffeine consumed.¹⁹¹ This is consistent with other studies, which suggest that although caffeine can help with daytime performance, when used chronically, it leads subjects who have demanding schedules to become more sleepy.¹⁹² Similar to findings in general sleep studies, a doctor’s working memory also was affected negatively by on-call status.¹⁹³

Dr. Charles Czeisler reviewed the studies regarding the effects of insufficient sleep on the ability of doctors to function. He included in his analysis aspects of people’s lives that normally fall outside the studies. For

186. Christopher A. Feddock et al., *Do Pressure and Fatigue Influence Resident Job Performance?*, 29 *Med. Teacher* 495, 496 (2007).

187. Czeisler, *supra* n. 108, at 252 (describing research) (footnote omitted).

188. *Id.* at 252–253 (footnote omitted).

189. Jodi Gerdes et al., *Jack Barney Award: The Effect of Fatigue on Cognitive and Psychomotor Skills of Trauma Residents and Attending Surgeons*, 196 *Am. J. Surgery* 813, 814, 816–817 (2008).

190. *Id.* at 817–818.

191. *Id.* at 817.

192. Czeisler, *supra* n. 108, at 264 (citing study). It is suggested this occurs because caffeine consumption interferes with sleep recovery.

193. Ashraf Gohar et al., *Working Memory Capacity is Decreased in Sleep-Deprived Internal Medicine Residents*, 5 *J. Clinical Sleep Med.* 191, 195 (study of 39 residents).

example, he considered that doctors are not only sleep deprived because of their jobs. If they have parenting responsibilities for newborns, for example, they will also have increased daytime fatigue even if they work normal hours.¹⁹⁴ He considered the ethical obligations of doctors and opined that “[w]orking such long hours that the risk of unnecessary patient injury rises sharply violates the ethical principles of nonmaleficence,”¹⁹⁵ which “requires of us [physicians] that we not intentionally create a needless harm or injury to the patient, either through acts of commission or omission.”¹⁹⁶ Indeed, he argues that doctors who have worked more than 16 consecutive hours without sleep should not drive cars, because of increased accident rates.¹⁹⁷ This line of reasoning leads to some additional implications for sleep deprived lawyers—that sleep deprivation is dangerous to one’s health.

3. *By the Way, You’re Killing Your Lawyers, or at Least Making Them Sick.*

Insufficient sleep has been linked to all kinds of physical and emotional problems for human beings. People who sleep less eat more, are more likely to be obese, and are more likely to be diabetic.¹⁹⁸ Indeed, reduced sleep contributes to body mass gain and an increased body mass index.¹⁹⁹ It also leads to heart problems:

An increase in cardiovascular events and cardiovascular morbidity associated with reduced sleep durations has been reported in a number of epidemiological studies and in a case-control study examining insufficient sleep due to work demands.²⁰⁰

And if that’s not scary enough, a “2–3 fold increase in risk of cardiovascular events was found for subjects with an average sleep duration of [less than or equal to five hours] per night (or chronically having [less than five hours] of sleep per night at least twice per week)”²⁰¹ Thus, chronic sleep restriction—not just sleep deprivation—has serious implications for one’s health. For women who sleep less than seven hours per night, a study found an increased risk of coronary events.²⁰² Indeed, in general, people

194. Czeisler, *supra* n. 108, at 255.

195. *Id.* at 271 (footnote omitted).

196. Thomas R. McCormick, Ethics in Medicine, *Principles of Bioethics*, <http://depts.washington.edu/bioethx/tools/princpl.html#prin2> (last updated Oct. 1, 2013).

197. Czeisler, *supra* n. 108, at 271.

198. Orzel-Gryglewska, *supra* n. 107, at 101 (citing and describing research).

199. *Id.*

200. Banks & Dinges, *supra* n. 114, at 526 (footnotes omitted).

201. *Id.* (describing study).

202. Banks & Dinges, *supra* n. 105, at 73 (citing and describing study).

who sleep less than 6.5 hours each night have an elevated mortality risk,²⁰³ although it is unclear why.²⁰⁴

This increased mortality risk may be due in part to the increase in traffic accidents due to sleepiness. “There is an increased incidence of sleep-related motor vehicle crashes in drivers reporting less than 7 hours of sleep per night on average.”²⁰⁵ But it is not just sleep restriction that increases traffic accidents. Studies show that extended work hours also increase the likelihood of traffic accidents.²⁰⁶ Indeed, in a lawsuit brought in Illinois, the guardian of a car accident victim brought a negligence action against a hospital, because a resident doctor caused an accident after falling asleep behind the wheel subsequent to coming off a 36-hour shift.²⁰⁷ While the lawsuit was unsuccessful because Illinois law recognized no duty of care owed by the hospital under these circumstances,²⁰⁸ it is not surprising that the plaintiff brought such a suit, given the studies of the effects of sleep deprivation on the ability to drive.²⁰⁹

Finally, sleep deprivation also is linked to psychiatric and emotional problems. It is positively correlated with anxiety, tension, nervousness, and irritability.²¹⁰ While sleep deprivation can have positive effects on those who are already depressed, for a healthy person, sleep deprivation increases depressive symptoms.²¹¹ In the end, it is not good for people to forgo normal amounts of sleep. It can lead to negative physical and psychological effects.

203. *Id.*; see also Basner et al., *supra* n. 74, at 1085 (These studies suggest that self-reported sleep duration is associated with all-cause mortality.).

204. See Basner et al., *supra* n. 74, at 1085–1086 (stating it is difficult to find causality between too little sleep and morbidity because of factors that may correlate with less sleep).

205. Banks & Dinges, *supra* n. 105, at 72 (citing and describing studies).

206. Francesca Valent et al., *A Case-Crossover Study of Sleep and Work Hours and the Risk of Road Traffic Accidents*, 33 SLEEP 349, 354 (2010).

207. *Brewster v. Rush-Presbyterian-St. Luke’s Med. Ctr.*, 836 N.E.2d 635, 636–637 (Ill. App. 1st Dist. 2005).

208. *Id.* at 639.

209. Indeed, legal scholars have begun exploring medical errors related to doctor fatigue from a variety of legal angles. See e.g. Robert R. Elder, Student Author, *Expanded Hospital Liability Under the Federal False Claims Act: An Unexpected Solution to the Resident Duty Hour Controversy*, 5 Ind. Health L. Rev. 53 (2008); Andrew W. Gefell, Student Author, *Dying to Sleep: Using Federal Legislation and Tort Law to Cure the Effects of Fatigue in Medical Residency Programs*, 11 J. L. & Policy 645 (2003); Samuel V. Jones, *The Moral Plausibility of Contract: Using the Covenant of Good Faith to Prevent Resident Physician Fatigue-Related Medical Errors*, 48 U. Louisville L. Rev. 265 (2009); Jennifer F. Whetsell, *Changing the Law, Changing the Culture: Rethinking the “Sleepy Resident” Problem*, 12 Annals Health L. 23 (2003).

210. Babson et al., *supra* n. 103, at 297.

211. *Id.* at 297–298 (citing studies).

C. *Work Productivity Studies and Theories*

There are also interesting studies, anecdotal evidence, and the experience of several European countries that suggest lowering workers' working hours leads to increased productivity. This theory caught on in the early twentieth century, during which such notable manufacturers such as Henry Ford implemented reduced hours for workers with resulting gains in productivity. Ford set the minimum wage for his workers at \$5.00/day for eight hours of work/day.²¹² This compared quite favorably from an employee's perspective to the workplace average of \$2.50/day for ten hours of work. Later, Ford limited the workweek to five days—instead of the more common six-day work week.²¹³ According to Ford, there were good reasons for doing so: “Now we know from our experience in changing from six to five days and back again that we can get at least as great production in five days as we can in six, and we shall probably get a greater, for the pressure will bring better methods. A full week's wage for a short week's work will pay.”²¹⁴

Ford was not alone in espousing this theory. Studies from a variety of industries have shown the benefits of shorter workweeks.²¹⁵ As one group of researchers explained, “Scientific studies of the work process proved that, when tasks were so highly concentrated, productivity declined considerably when working time was long.”²¹⁶ The work of Michael White²¹⁷ and others in Europe led the European Union to adopt a maximum work week of 48 hours.²¹⁸ The International Labour Office in Geneva has argued that

212. Samuel Crowther, *Henry Ford: Why I Favor Five Days' Work with Six Days' Pay*, *World's Work* 613, 613–616 (Oct. 1926).

213. *Id.*

214. *Id.* (Interestingly, Ford also eliminated night shifts as well, finding that workers “do not work so well and hence it is not economical, or at least that is our experience, to go through the full twenty-four hours.”).

215. See e.g. Edward Shepard & Thomas Clifton, *Are Longer Hours Reducing Productivity in Manufacturing?*, 21 *Int'l J. Manpower* 540 (2000) (study showing that for almost all of 18 industries in sample, overtime hours lowered average productivity as measured by output per worker hour).

216. Gerhard Bosch & Steffen Lendorff, *Working-Time Reduction and Employment: Experiences in Europe and Economic Policy Recommendations*, 25 *Cambridge J. Econ.* 209, 215 (2001) (Indeed, these researchers noted worker productivity in United States is nearly 13 times higher in 1992 than in 1870, allowing for both shorter work time and a rise in real incomes.).

217. See Michael White, *Working Hours: Assessing the Potential for Reduction* (1987). White wrote at the behest of the International Labour Office and included extensive examples of situations in which shorter hours led to increased productivity. *Id.* at 40–48.

218. Official Journal of the European Union, *Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003: concerning certain aspects of the organisation of working time*, Official Journal L 299, 18/11/2003 P. 0009 - 0019, (available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:299:0009:0019:en:PDF>). White's work is cited prominently in the International Labour Office's position pieces on working time and productivity. See International Labour Office, *Conditions of Work and Employment Programme, Information Sheet No. WT-18, Working Time*

reduced hours (meaning working less than 48 hours/week) increases productivity and has positive motivational consequences for workers.²¹⁹ Others have argued that absenteeism and turnover rates decrease significantly when working hours are reduced.²²⁰ In addition, shorter working hours are thought to decrease unemployment,²²¹ which might be of particular importance to the United States as it faces historically high unemployment rates.²²² There is controversy regarding whether United States workers recently have begun to increase their hours of work;²²³ however, it is clear that lawyers' hours have increased dramatically since the 1960s, during which the average yearly billable hours were 1300/year.²²⁴

Concerns about the productivity of overworked employees has led former CEO and BNET contributor Margaret Heffernan to advocate for reduced working hours:

[F]or the last 100 years, every productivity study in every industry has come to the same conclusion: after about 40 hours in a week, the quality of your work starts to degrade. You make mistakes. That's why working 60 hours may not save you time or money: you'll spend too much of that time fixing the mistakes you shouldn't have made in the meantime. That's why software companies that limit work to 35 hours a week need to employ fewer QA engineers: there isn't as much mess to clean up.²²⁵

Alluding specifically to lawyers, Heffernan argued that the legal profession (like the medical profession) “perpetuate[s] working hours where all-nighters are heroic, driving with jet lag is the norm and anyone who actually has

and Productivity (June 2004) (available at http://www.ilo.org/wcmsp5/groups/public/—ed_protect/—protrav/—travail/documents/publication/wmcs_travail_is_19.pdf).

219. International Labour Office, *supra* n. 218.

220. Amy Saltzman, *When Less is More*, 123 U.S. News & World Reports 78 (Oct. 27, 1997) (quoting management consultant Ron Healey).

221. See Bosch & Lehdorff, *supra* n. 216, at 209. This is a controversial subject among economists. See Chun-chieh Huang et al., *Worker Productivity, Working Time Reduction, and the Short-Run and Long-Run Employment Effects*, 49 Scottish J. Political Econ. 357 (2002).

222. The United States unemployment rate was 9.2% in June 2011. Bureau of Labor Statistics, *Unemployment Rate at 9.2 Percent in June 2011*, The Editor's Desk (July 12, 2011) (available at http://www.bls.gov/opub/ted/2011/ted_20110712.htm). In January of 2001, the unemployment rate was 4.2%. Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey* (available at <http://data.bls.gov/timeseries/LNS14000000>).

223. Working hours consistently went down in the 20th century until 1966, when hours blipped up from 41.8 per week in 1956 to 42.1 in 1966. See White, *supra* n. 217, at 4 tbl. 1. They began to increase again in the 1980s. Juliet B. Schor, *The Overworked American: The Unexpected Decline in Leisure*, 1 (Basic Books 1992); Juliet Schor, *Less Work, More Living*, Yes! Magazine (Fall 2011) (available at <http://www.yesmagazine.org/issues/new-livelihoods/less-work-more-living>).

224. NALP, *supra* n. 19, at tbl. 2 (The ABA reported that the average number of hours billed in 1962 was 1300. Rhode, *supra* n. 65, at 14. This compares to the average of 1,771 reported to NALP in 2009.).

225. Margaret Heffernan, *How to be Productive: Stop Working*, BNET: The CBS Interactive Business Network (August 10, 2010) (available at <http://www.bnet.com/blog/business-strategy/how-to-be-productive-stop-working/378>).

lunch risks becoming lunch.”²²⁶ If what the studies show for other industries hold for lawyers, Heffernan’s argument is compelling. Certainly sleep research suggests that those who try to work under conditions of sleep deprivation or restriction are not firing on all cylinders. The sleep research is consistent with productivity studies in this regard.

D. Ethical Implications for the Legal Profession

Research concerning the effects of sleep deprivation and sleep restriction show that people have difficulty functioning under both conditions. This has implications for the effectiveness of lawyers who are not sleeping enough. Workplace productivity studies further support that productivity is affected by long working hours. Lawyers’ cognitive abilities are impaired and, to put it bluntly, a client who is paying for an attorney to work at 3 a.m. is simply not getting the cognitive bang for its buck. Not only are clients paying for lawyers who may have the abilities of someone who is intoxicated, similar to the ethical implications of sleep deprived residents for the medical industry, there are also ethical implications associated with sleep deprived lawyers. Three in particular come to mind. First is the requirement that lawyers charge a reasonable fee. Model Rule of Professional Conduct 1.5 provides that lawyers “shall not . . . charge, or collect an unreasonable fee”²²⁷ A sleep deprived lawyer is easily distracted and has difficulty staying on task. Charging clients the full hourly rate for that lawyer’s time under conditions of sleep deprivation seems unreasonable. In addition, partners in law firms have an obligation and managerial responsibility to make certain other lawyers practice in conformity with the Rules of Professional Conduct.²²⁸ Although lawyers’ errors do not cause as grievous results as doctors’ errors, they can still lead to malpractice claims. One could envision a sleep deprived lawyer making a significant error. A supervisory attorney can be liable for such malpractice if he or she “knows of the conduct at a time when its consequences can be avoided or mitigated but fails to take reasonable remedial action.”²²⁹ The reasonable remedial action for a sleep deprived or sleep restricted lawyer is to let her go home and get some sleep before completing her work. If hospitals are being sued for traffic accidents caused by sleep deprived residents, can law firms be that far behind?

Finally, some state rules of professional responsibility specifically prohibit lawyers from discriminating based on sex in employment. While the

²²⁶ *Id.*

²²⁷ Model R. Prof. Conduct 1.5 (ABA 2006).

²²⁸ *Id.* at 5.1(a).

²²⁹ *Id.* at 5.1(c)(2).

commentary to Model Rule of Professional Conduct 8.4 limits misconduct to “knowingly manifest[ing] by words or conduct, bias or prejudiced based upon . . . sex,” such behavior only violates Rule 8.4 when it is “prejudicial to the administration of justice.”²³⁰ Some states as well as the District of Columbia have provided broader prohibitions against sex discrimination. For example, the District of Columbia Bar makes it an ethical violation for an attorney to “discriminate against any individual in conditions of employment because of the individual’s . . . sex . . . [or] family responsibility. . . .”²³¹ Similarly, other states add it as an explicit part of their rules of professional responsibility (rather than relegating sex discrimination to commentary), while eliminating the link to the administration of justice, or simply include an explicit provision prohibiting discrimination in employment based on sex.²³² Thus, if high billable hours have a discriminatory impact on women lawyers, it may be unethical in some jurisdictions to continue such practices. In addition, morally, it is wrong to continue a practice that has a disproportionate impact on the employment prospects of women. For men who wish to have a more balanced life, lowering billable hour requirements will have the salutary effect of providing them with more time to spend with their families. It’s not just women who would benefit from reduced billable hour requirements.

IV. CONCLUSION

Corporate counsel would do well to ask one question if they truly are interested in achieving both the goals of diversity and value for their law firm dollar spent: what is your firm’s billable hour requirement for associates and partners? Lower billable hour requirements are likely to keep more working mothers at large law firms, instead of opting for more work-life balanced workplaces. This helps both clients, who gain from having their work completed by a consistent set of attorneys who are firing on all cylinders, and law firms, which experience losses due to associate and even partner attrition. Another interesting and recent angle on diversity is research concerning the presence of women on a working team. A recent study of collective intelligence and teamwork showed that a group’s collective intel-

230. Model R. Prof. Conduct 8.4, cmt. 3, (ABA 2011).

231. D.C. R. Prof. Conduct 9.1 (2013).

232. For examples of states making sex discrimination a form of misconduct explicitly covered by the rule (instead of in commentary), *see e.g.* Colo. R. Prof. Conduct 8.4(g) (2013); Ind. R. Prof. Conduct 8.4(g) (2013); Iowa R. Prof. Conduct 32:8.4(g) (2013); Ohio R. Prof. Conduct 8.4(g) (2013); Wash. R. Prof. Conduct 8.4(g) (2013). For those that explicitly make forms of employment discrimination misconduct, *see e.g.* Minn. R. Prof. Conduct 8.4(h) (2013) (prohibiting discriminatory acts prohibited by federal law); N.J. R. Prof. Conduct 8.4(g) (2013) (making employment discrimination that results in final agency or judicial determination misconduct); N.Y. R. Prof. Conduct 8.4(g) (2013) (employment discrimination); Vt. R. Prof. Conduct 8.4(g) (2013) (employment discrimination).

ligence was positively correlated with the proportion of women in the group.²³³ The researchers found that women scored better on social sensitivity measures than men, which likewise correlated with higher group collective intelligence.²³⁴ So, legal teams benefit as do corporate clients from the presence of women on those teams.

Lower billable hours should have a beneficial effect on diversity by increasing the success of working mothers in large law firms. Given the work-life balance issues these women face, working fewer hours will make these workplaces more tenable as long-term career options. At the same time, lower billable hours should have a beneficial effect on legal work product and efficiency. Sleep and work productivity studies suggest that people work better when they work eight hours or less each day and limit the workweek to a five day week. There is no reason to suppose that lawyers, as a group, are any different. The potential effects for clients are obvious—better work product for less attorney-billed hours, which translates into lower fees. Thus, the lower billable hour accomplishes two corporate counsel goals: creates more diversity with respect to sex in large firm practice and results in better value through more efficient lawyers.

Fewer billable hours obviously will have implications for law firm salary structures. Some people, no doubt, will end up making less money than they currently do. Yet, that does not mean that the law firm will be unprofitable or that lawyers will not make a reasonable salary. There are examples of firms who have successfully lowered their billable hour requirements.²³⁵ Notably, data from NALP's work-life balance study shows that 41.6% of corporate lawyers and 45.9% of law firm lawyers were willing to make less to work less.²³⁶ This should make it possible to create profitable firms where lawyers can achieve a better work-life balance. The purpose of this article was to show how sleep and work productivity research might have an impact on the work-life balance issues experienced by women lawyers. The hope is that corporate counsel will begin to urge law firms to have their associates and partners work a bit less in an effort to increase value and keep a diverse legal workforce.

233. Anita Williams Woolley et al., *Evidence for a Collective Intelligence Factor in the Performance of Human Groups*, 330 *Science* 686, 688 (Oct. 29, 2010).

234. *Id.* (Another factor that positively correlated with collective intelligence was whether a few people dominated group conversation. As the researchers explained, "groups where a few people dominated the conversation were less collectively intelligent than those with a more equal distribution of conversational turn-taking.")

235. See Francesca Jarosz, *Tipping Back the Scales: Law Firms in Search of Work-Life Balance*, 16 *Business Law Today* 13, 19 (April 2007) (describing experience of Kirkpatrick and Lockhart Nicholson Graham, a firm that has been using a balanced hours program that includes reduced hours since 2006).

236. Susan Saab Fortney, The NALP Foundation, *In Pursuit of Attorney Work-Life Balance: Best Practices in Management* at 50 (2005).

