Gender, Risk Taking, and Negotiation Performance

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GENDER, RISK TAKING, AND NEGOTIATION PERFORMANCE†

Charles B. Craver*
David W. Barnes**

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Generally, men are described by a series of traits that reflect competence, rationality, and assertiveness. Men, for example, are viewed as independent, objective, active, competitive, adventurous, self-confident, and ambitious. Women are seen as possessing the opposite of each of these traits. They are characterized as dependent, subjective, passive, not competitive, not adventurous, not self-confident, and not ambitious.†

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In academic and professional areas, it's: you define what merit is, we will meet it.\(^2\)

**Introduction**

Over the past three decades the number of women entering the legal profession has increased substantially. In 1964, only four percent of law students were female.\(^3\) As recently as 1970, women comprised a mere 4.7 percent of legal practitioners.\(^4\) By the late 1980s and thereafter, women constituted about forty percent of law students and a growing percentage of practicing attorneys.\(^5\) Despite significant expansion in the number of female law students and legal practitioners, many individuals, including both legal employers and academics, stereotypically think that male and female attorneys behave differently in critical situations.\(^6\) They believe that gender differences render women less comfortable and less effective in highly competitive circumstances.\(^7\) Consequently, these same individuals suspect that female attorneys are less successful negotiators than their male counterparts. Such beliefs have real ramifications for women in law school and women beginning the practice of law. To the extent supervising attorneys—particularly men—have lower expectations for female associates, such beliefs may significantly undermine the ability of women lawyers to achieve their rightful place in the legal profession in general and within law firm hierarchies in particular.

Stereotypical thinking about women in competition and negotiation arises before women leave law school. For example, numerous


\(^6\) See infra Part II. Professor Craver, who has lectured on dispute resolution topics to thousands of attorneys in over forty states, continues to be asked frequently about perceived differences between male and female negotiators. The questions and comments of many lawyers imply that male and female attorneys do not behave comparably in competitive negotiation settings, with the unmistakable inference that female lawyers perform less proficiently than their male colleagues.

\(^7\) See infra notes 50–70 and accompanying text.
studies and other scholarship reveal a general societal belief that women are more risk averse than their male peers. As a result of such stereotypical thinking, law professors might suppose female law students would be more hesitant to take a legal negotiating course that involves overt student-to-student competition. Furthermore, if women decided to enroll in a legal negotiating course, they would be more likely to take that class on a credit/no-credit basis if that option were available, to diminish the impact of the competitive tendencies inherent in such a course. Their more competitive and risk-taking male cohorts, on the other hand, would be more willing to take this class on a graded basis, hoping to obtain high grades based on their expected superior performances.

This Article will evaluate the impact of the confluence of two factors—gender and the availability of a credit/no-credit grading option—on student performance in Professor Craver’s Legal Negotiating course at George Washington University. Our empirical assessment will analyze the results achieved on negotiation exercises and on course papers by the 612 male and female law students who took Professor Craver’s course over the past eleven years. Do a greater percentage of female students take the Legal Negotiating course on a credit/no-credit basis, when that option is available, than do their male cohorts? Are the women students who take the course on a credit/no-credit basis motivated more by a desire to avoid the discomfort associated with overt competition than by a desire to earn an easy two-credit hours in a skills course? If so, the credit/no-credit female students might work as diligently as their graded classmates causing the negotiation exercise and course paper performances of credit/no-credit females to exceed those of credit/no-credit males who may elect the credit/no-credit alternative not to avoid competition, but to guarantee themselves a “credit” with a minimal amount of effort.

To analyze these issues, we will make statistical comparisons between the percentages of male and female students who take the Legal Negotiating course on a credit/no-credit basis and concerning the

8. See infra notes 48–49 and accompanying text.
9. Although several adjunct professors have taught the Legal Negotiating course at George Washington University over the past eleven years, they have not taught and graded their students in the same way as Professor Craver. We have thus confined our study to the individuals who have been taught and graded in the same manner by the same person during the entire period.
performance of such students on the assigned negotiation exercises and on the course papers.

Although our data indicate that a greater percentage of females take the Legal Negotiating course on a credit/no-credit basis—supporting the hypothesis that women are more risk averse than their male peers—the data do not support the theory that women who take the class on a credit/no-credit basis outperform the male credit/no-credit students. Our data further suggest the absence of any statistically significant differences with respect to the negotiation exercise results or course paper scores achieved by male and female students, negating the stereotypical beliefs of many people that males outperform women in overtly competitive encounters. We hope that our findings in this regard will induce persons who hold these gender-based beliefs to reconsider their convictions. Challenging negative stereotypical perceptions of women as negotiators is part of a larger enterprise of questioning stereotypes about women’s ability to function as lawyers generally. Reducing invidious assumptions about women may diminish the likelihood that they will be assumed to have less proficient negotiating capabilities when law firms consider them for positions or admission to partnerships.

In Part I, we will describe the manner in which Professor Craver teaches his Legal Negotiating course and the way student performance is measured. In Part II, we will review the social science literature describing real and perceived gender-based behavioral differences. We will focus on the way those differences might be expected to influence legal negotiating class performance. In Part III, we will report our statistical findings and evaluate the null and alternative hypotheses supported by our data. We will conclude with a summary of our findings and a brief discussion of how our research relates to women in the legal profession generally.

I. Legal Negotiating Course Methodology

Before the statistical comparisons are made between the Legal Negotiating course results attained by credit/no-credit male and female students and between graded male and female students, it would be beneficial to describe Professor Craver’s Legal Negotiating course methodology at George Washington University.

Since the vast majority of legal disputes are resolved through negotiated agreements rather than adjudicative proceedings, and
business transactions are virtually all determined through bargained interactions, the development of negotiating skills should contribute greatly to one's ability to be an effective legal practitioner. During the 1960s, innovative law professors began to recognize that simulation exercises could be employed in clinical courses to teach law students about the negotiation process. Professors James J. White at the University of Michigan and Cornelius J. Peck and Robert L. Fletcher at the University of Washington developed simulation models designed to enhance the negotiating proficiency of future legal practitioners.

Since 1973, Professor Craver has taught a legal negotiating course based on the White-Peck-Fletcher models. Over the past eleven years, he has taught that class at George Washington University Law School. The Law School permits students to take upper-class courses on a graded or a credit/no-credit basis. Students who enroll in the Legal Negotiating class may do so for a conventional letter grade or on a credit/no-credit basis. They must make an irrevocable election by the end of the third week of the semester. This is a simulation class during which the students engage in a series of negotiation exercises the results of which determine two-thirds of their course grades.

10. See James J. White, The Lawyer as a Negotiator: An Adventure in Understanding and Teaching the Art of Negotiation, 19 J. Legal Educ. 337 (1967) (describing law school seminar in which grades are based on how well students negotiate); see also Harry T. Edwards & James J. White, The Lawyer as a Negotiator (1977).


12. The Law Faculty has restricted the number of hours students may take on a pass/fail basis. Students may currently take a maximum of seventeen hours on a credit/no-credit basis. We use the terms “credit/no-credit” and “pass/fail” interchangeably, with “credit” equal to “pass” and “no-credit” equal to “fail.” At George Washington University Law School, students must attain grades of “C-” or higher to earn “credit.” “No-credit” grades deprive students of course credit, but have no impact on student grade point averages. Some courses may only be taken on a pass/fail basis: courses in other University departments; Legal Research and Writing; Introduction to Advocacy, Trial Advocacy; law review and journal editorial credit; externships with government agencies; and clinical courses. This limit does not count Legal Research and Writing and Introduction to Advocacy, which must both be taken on a credit/no-credit basis. In some cases, the grade in these courses must be “credit” or “no-credit,” while in others the grade must be “honors,” “pass,” or “no-credit,” with none of these grades affecting student grade point averages. See 1997–98 George Washington University Law School Bulletin 10–13.

Unlike traditional courses in which student grades are indirectly affected by the performance of other students due to the application of a law school grading curve, the actions of students in the Legal Negotiating class directly affect one another's grades. This is due to their work with partners on some exercises and their interactions with assigned opponents on all of the exercises. They may encounter personal conflicts with partners or difficult opponents who may adversely affect their performance on particular exercises; these unforeseeable circumstances have a potentially significant impact on their final course grades.

The initial Legal Negotiating class is devoted to an explanation of the course format and the evaluation process. Professor Craver tells the students that they will explore the negotiation process and engage in a series of negotiation exercises. The first two or three will be for practice purposes and will not affect course grades. The next five exercises, however, will be used to determine two-thirds of class grades. Each negotiation exercise is structured in a “duplicate bridge” format. Every participant receives identical General Information describing the relevant factual circumstances and the specific issues that must be resolved through the negotiation process. The professor provides all of the individuals on the same side with identical Confidential Information apprising them of special information possessed by their client, explaining their client's bargaining objectives, and the manner in which they will be evaluated if they achieve agreements or fail to generate mutual accords. They are usually assigned one or two zero-sum problems that only concern the amount of money one side will pay to the other, because many litigation and nonlitigation interactions are limited to these types of “distributive” situations that involve head-to-head competition. They are also assigned several non-zero-sum exercises that permit cooperative negotiating parties to simultaneously increase their respective satisfaction levels through efficient “integrative” bargaining that is designed to maximize the joint return attained by the participants.

Class participants negotiate on a one-against-one or a two-against-two basis. On some exercises, students are assigned partners to

14. Students are required to participate in all five graded exercises, unless they provide good cause to be excused from a particular exercise.
15. See Appendix.
assist them with complex issues and to demonstrate the difficulties negotiators may encounter with the people on their own side. The students learn that, in practice, opposing counsel often achieve tentative accords with minimal difficulty, and thereafter must expend prolonged efforts to convince their respective clients to accept the negotiated agreements. For each exercise, participants are randomly assigned different opponents and, when relevant, different partners. This is done to maximize the number of individuals with whom they will interact throughout the term and to prevent one student from having an excessive impact on the course grade of another student.

The professor grades the performances of the students on a curve, based on each side’s results measured against the scoring information contained in that side’s Confidential Information. For example, if ten groups of students negotiate on a two-against-two basis, the most successful team on Side A receives ten placement points, the second highest nine placement points, and so forth. A similar ranking process is carried out with respect to the individuals on Side B.

Each student is also required to prepare a ten- to fifteen-page paper exploring the negotiation process. In the paper, the students must analyze their bargaining interactions based on the concepts covered throughout the term. Some papers focus on the different negotiation stages; the efficacy of diverse bargaining techniques; the impact of race, gender, age, or similar factors; the use of deceptive tactics; the importance of verbal and nonverbal communication; and other similar topics. Students are informed that acceptable papers—worthy of a “C” or better—must be prepared if they are to obtain course credit. The professor will return unacceptable papers for improvement, where warranted. This rule applies to both graded and credit/no-credit students and must be satisfied regardless of successful results on the assigned exercises.

Students know that if they participate in the assigned negotiation exercises and prepare acceptable papers, they are guaranteed grades of

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17. During the practice exercises that do not affect course grades, students negotiate against the same opponents in order to appreciate the way in which current negotiating behavior may influence future interactions with the same persons.

18. See Appendix.

19. If twenty pairs of students interact on a one-against-one basis, the highest student on Side A still receives ten placement points, but the second highest student receives 9.5 placement points, the third highest student receives 9.0 placement points, and so forth. This half-step scale is used to provide the two-against-two and the one-against-one exercises with equal weight.
"C/C+" or better, and students taking the class on a credit/no-credit basis are guaranteed "credit." They are also informed that the Law School curve precludes the awarding of grades of "A-" and above to more than 25 percent of class members. At the beginning of the course, the professor emphasizes two factors which students should consider carefully when they decide whether to take the class for a grade or on a credit/no-credit basis. Class participants will engage in openly competitive exercises that will influence their final grades. Risk averse individuals might find this experience discomforting and prefer to diminish the competitive aspect by opting for credit/no-credit evaluations. They are also reminded that their negotiation results will be affected by both assigned partners and opponents. Individuals concerned about this aspect of the course are encouraged to take the class on a credit/no-credit basis. Students are finally told that if they are equivocating with respect to this issue, they should probably elect the credit/no-credit option to enhance their enjoyment of the course and to maximize their learning experience.

To prevent the availability of the credit/no-credit option from unfairly influencing bargaining interactions, course rules expressly prohibit the disclosure by students of whether they are taking the course for a grade or on a pass/fail basis, regardless of whether they are being truthful or deceitful.

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20. Students know that at George Washington University instructors are not informed of the grading options selected by class members until after final letter grades have been assigned and turned in to the Records Office.

21. The specific grading rules are described to provide students with the information they need to determine whether to take the class for a grade or on a credit/no-credit basis. This practice is particularly important for a skills course that involves a unique grading system.

22. This rule was established many years ago, after several students had endeavored to obtain a negotiating advantage by informing unsuspecting opponents that they were taking the class on a credit/no-credit basis and did not care whether they reached final agreements. They further indicated that they would only agree to terms that they found beneficial. These representations intimidated risk averse opponents who were taking the course for a grade, because these class members feared that non-settlements would adversely affect their grades, while having no significant impact on their credit/no-credit adversaries. It is interesting to note that in every instance in which this approach was used, the students who suggested that they were taking the class on a credit/no-credit basis were actually taking the class for a grade. They disingenuously employed this deceptive device to obtain a bargaining advantage from naïve and fearful opponents. Had their adversaries taken the time to analyze the circumstances, they would probably have suspected deceitful conduct. If their opponents were truly taking the course on a pass/fail basis, why would they be so concerned with the results they were achieving on particular exercises? Only the graded students would have an incentive to be so concerned about their exercise placements. By prohibiting
During the first half of the semester, the course material incorporates theoretical and practical concepts pertaining to the negotiation process. Students are assigned chapters from *Effective Legal Negotiation and Settlement*[^23] and are encouraged to read *Getting to Yes.*[^24] The class considers the psychological factors that influence negotiation interactions, along with the impact of verbal and nonverbal communication. The students evaluate the effectiveness of cooperative/problem-solving and competitive/adversarial negotiation styles, and the professor encourages the students to contemplate the use of an amalgam competitive/problem-solving approach through which they may attempt to obtain beneficial client results, while simultaneously seeking to maximize the joint returns obtained by both sides. The manner in which the personal needs of clients and attorneys and the different types of legal problems and relationships may affect bargaining encounters is discussed. The class then examines the various stages of the negotiation process (Preparation Stage, Preliminary Stage, Information Stage, Distributive Stage, Closing Stage, and Cooperative Stage) to apprise students of the primary objectives associated with each. The strengths and weaknesses of the various techniques negotiators are likely to encounter are assessed. Specific negotiation issues pertaining to such topics as the commencement of litigation settlement talks, dealing with government agencies, telephone negotiations, and the use of neutral intervenors are next examined. The class explores the impact of cultural differences and gender role expectations on bargaining interactions. The professor asks class members whether they think their relationships with partners or opponents may have been influenced by such factors.

The class explores the use of "attitudinal bargaining"[^25] to modify the unacceptable behavior of some opponents.[^26] Students are

[^25]: "Attitudinal bargaining" involves the negotiation of ground rules regarding the way in which the parties will interact. Someone displeased by the way in which an opponent has begun the process uses this technique to modify that person's inappropriate behavior.
[^26]: Most third-year students at George Washington University Law School are not closely acquainted. During the first year, students are divided into five or six first-year sections containing ninety to over one hundred individuals, and most upper-level
reminded how much their excessively competitive classmates want to achieve extraordinary results and of the fact that if the less competitive participants are willing to accept the consequences of nonsettlements, those students can usually alter the offensive conduct of their competitive adversaries. Once overtly competitive participants realize they may be forced to forego agreements if they continue to behave inappropriately, they generally conform to expected class norms. The professor expressly encourages students who fear that unpleasant interactions with competitive, win-lose opponents may detract from their learning experience to contemplate the credit/no-credit option to enable them to withdraw from offensive interactions without fear of negative grade consequences.

The availability of the credit/no-credit option enables individuals, who fear that grade anxieties may undermine their learning experience, to take the course without worrying about their final grades. On the other hand, the option to take the course for a grade provides individuals with the opportunity to strive for optimal performances that will enhance grades and heighten the seriousness with which graded participants approach the simulation exercises. If all students took the class on a pass/fail basis, few would be inclined to work as hard as they would if their negotiation results had affected course grades.\(^{27}\) Being graded enables students to experience and learn to deal with the competitive pressures associated with most legal negotiations. When they graduate, usually within a year of taking the course, they will experience far greater pressure when they negotiate on behalf of clients who must live with the consequences of their bargaining interactions. Individuals who learn to cope with grade-generated anxieties should find it easier to cope with practice-related pressures once they enter the legal profession.

Over the eleven years Professor Craver has taught Legal Negotiating at George Washington University, the percentage of students taking the course on a credit/no-credit basis has increased. From 1986 through 1990, the percentages ranged from a low of 15.6 for 1986 to

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a high of 29.5 in 1990. Over the more recent six-year period, the percentages have ranged from 30.5 in 1993 to 48.2 in 1995. We have no idea why a greater percentage of students have selected the credit/no-credit option in more recent years. It is possible that law students have become more risk averse or more grade conscious during the 1990s, or that more recent students have heard that graded students experience more anxiety due to the competitive nature of the Legal Negotiating course exercises.

II. REAL AND PERCEIVED GENDER DIFFERENCES

Many people believe that men and women behave in stereotypically different ways when they interact. Various traits are attributed to males, with other characteristics being attributed to females. While some of these gender-based differences may reflect real—i.e., empirically demonstrated—behavioral traits, others are merely perceived differences that have no scientifically established bases. Nonetheless, whether these differences are real or imagined, they may influence the way in which men and women interact when they negotiate, because the participants expect these factors to affect their dealings.

Men are thought to be rational and logical, while women are considered emotional and intuitive. Men are expected to emphasize objective fact, while women focus more on relationships. As a result, men are considered more likely to define issues in abstract terms and to resolve them through the application of reasoning based on justice

28. See infra Part III.
29. See Nancy A. Burrell et al., Gender-Based Perceptual Biases in Mediation, 15 COMM. Res. 447, 453 (1988) (discussing research that shows men and women who do not act differently are perceived to act differently); Lloyd Burton et al., Feminist Theory, Professional Ethics, and Gender-Related Distinctions in Attorney Negotiating Styles, 1991 J. DISP. RESOL. 199, 200–03 (interpreting Carol Gilligan, In a Different Voice (1982)); Carrie Menkel-Meadow, Portia Redux: Another Look at Gender, Feminism, and Legal Ethics, 2 VA. J. Soc. Pol'y & L. 75, 76–81 (1994) (explaining research by Carol Gilligan that suggests women use an “ethic of care” and men use an “ethic of justice” in their approaches to problem solving); Lawrence B. Nadler & Marjorie Keeshan Nadler, The Role of Sex in Organizational Negotiation Ability, 9 WOMEN’S STUD. IN COMM. 1, 1–2 (1986).
31. See generally Carol Gilligan, In a Different Voice (1982); Lee E. Teitelbaum et al., Gender, Legal Education, and Legal Careers, 41 J. LEGAL EDUC. 443, 446 (1991).
and rights. Men are thought more likely to rely on theoretical legal principles than are women.

Men are expected to be dominant and authoritative, while women are viewed as passive and submissive. Research shows when the sexes interact, men tend to speak for longer periods of time and to interrupt more frequently than women. Men usually exert more control over the subjects being discussed; they employ more direct language, while women tend to exhibit tentative and deferential speech patterns. During conversations, women tend to adopt physical alignments that are cohesive and supportive of other group members, and they are inclined to make more eye contact than their male cohorts. The masculine tendency to dominate male-female interactions could provide men with an inherent advantage during negotiations, by enabling them to control the agenda and direct the substantive discussions. When Hanisch and Carnevale studied the mediative styles of male and female subjects, they found that men were more confident of their ability to influence the parties. Female mediators sent fewer verbal signals to the parties, and they evidenced a greater desire to obtain the approval of the disputing parties.

Professor Gilligan has suggested that perceived gender differences may be attributed to the fact that American women have historically

33. See Gender and Law Project, supra note 32, at 1227.
34. See ELEANOR EMMONS MACCOBY & CAROL NAGY JACKLIN, THE PSYCHOLOGY OF SEX DIFFERENCES 228, 234 (1974); Payton, supra note 30, at 633.
35. See Lynn Smith-Lovin & Dawn T. Robinson, Gender and Conversational Dynamics, in GENDER, INTERACTION, AND INEQUALITY 122, 123 (Cecilia L. Ridgeway ed., 1992); Gender and Law Project, supra note 32, at 1220; DEAUX, supra note 1, at 60. See generally DEBORAH TANNEN, GENDER AND DISCOURSE 53–77 (1994) (indicating that men tend to use interruptions to dominate conversations and to change the focus of what is being discussed, while women tend to use interruptions to reinforce comments being made by other speakers).
36. See Smith-Lovin & Robinson, supra note 35, at 124–26 (claiming that when males want something, they tend to demand it, while females are more likely to ask for it).
37. See TANNEN, supra note 35, at 86–99.
38. See Kathy A. Hanisch & Peter J. Carnevale, Gender Differences in Mediator Behavior 7 (Aug. 29, 1987) (paper published by Educational Resources Information Center, Index No. 292-037). Since mediation is effectively “assisted negotiation” in which neutral intervenors negotiate with disputing parties to facilitate their bargaining interaction, descriptions of male and female mediation styles and traits are relevant to negotiation behaviors.
felt less powerful than men. This phenomenon has often caused women to be less confident regarding their ability to influence others and more concerned with the manner in which others view their performance. Perceived power imbalances may also explain why women tend to be more apprehensive before impending negotiations than men.

Male and female self-concepts are affected by the stereotypical ways in which others evaluate their performances. Men who perform masculine tasks no more proficiently than women tend to be given higher evaluations than the equally performing women. When men are successful, their performance tends to be attributed to intrinsic factors such as intelligence and hard work. When women are successful, however, their performance is likely to be attributed to extrinsic variables such as luck or the actions of others. This enhances male self-confidence by permitting them to receive credit for their accomplishments, and it undermines the confidence of successful women by attributing the reasons for their accomplishments to external considerations.

40. See Gilligan, supra note 31, at 14–16; see also Linda Stamato, Voice, Place, and Progress: Research on Gender, Negotiation, and Conflict Resolution, 9 Mediation Q. 375, 378 (1992) (indicating that women perceive themselves as possessing less power than men even when they possess equal situational power).

41. See Peggy McIntosh, Feeling Like a Fraud, Speech presented at the April 1984 Stone Center Colloquium Series, Work in Progress Series (discussing women’s socialization to disparage and devalue themselves); Payton, supra note 30, at 633; Dean G. Pruitt et al., Gender Effects in Negotiation: Constituent Surveillance and Contentious Behavior, 22 J. Experimental Soc. Psychol. 264, 265 (1986); Irene P. Stiver, Work Inhibitions in Women 2, Paper published by the Stone Center for Developmental Services and Studies, Work in Progress Series (1983) (“It is noteworthy how often women express enormous doubts about their abilities and their competence.”).

42. See Gilligan, supra note 31, at 67–70.

43. See Stamato, supra note 40, at 378–79.

44. See Martha Foschi, Gender and Double Standards for Competence, in Gender, Interaction, and Inequality 181, 185 (Cecilia L. Ridgeway ed., 1991).

45. See Deaux, supra note 1, at 30–32, 41; Foschi, supra note 44, at 191.

46. See Deaux, supra note 1, at 30–32, 41; Foschi, supra note 44, at 191; Roberta M. Hall & Bernice R. Sandler, The Classroom Climate: A Chilly One for Women? 4 (Feb. 1982) (paper published by the Association of American Colleges as part of the Project on the Status and Education of Women). It is interesting to note, however, that when failure is encountered, women tend to be blamed for the negative consequences, while male failure is likely to be attributed to factors beyond their control. See Foschi, supra note 44, at 191; Deaux, supra note 1, at 30.

47. See Foschi, supra note 44, at 193.
When men and women encounter competition, they may behave differently. Various scholars have suggested that "women are more likely [than men] to avoid competitive situations, less likely to acknowledge competitive wishes, and not likely to do as well [as men] in competition." Many women are apprehensive regarding the negative consequences they associate with competitive achievement. "Again and again women report the feeling that a successful woman alienates herself from both women and men." Gender-based differences in competitive behavior may be attributable to different acculturation processes for boys and girls. Parents have tended to be more protective of their daughters than of their sons. Boys have traditionally been exposed to competitive situations at an early age. They have been encouraged to participate earnestly in little league baseball, basketball, football, soccer, and other competitive athletic endeavors. These activities introduce boys to the "thrill of victory and the agony of defeat" during their formative years. "Traditional girls' games like jump rope and hopscotch are turn-taking games, where competition is indirect since one person's success does not necessarily signify another's failure." Even though it is true that federal and state civil rights enactments have required educational institutions to provide female students with athletic opportunities equal to those available to male students, the percentage of women participating in overtly competitive sports continues to lag behind the percentage of men. Furthermore, at the little league and junior high school levels, the principal objective of boys' sports is victory, while the primary goal of girls' sports is often the chance to participate. While directly competitive games teach boys how to resolve the disputes that inevitably arise during those encounters, girls rarely have the opportunity to learn such informal conflict resolution skills. By adulthood, men are much

49. Stiver, supra note 41, at 6; see also Gilligan, supra note 31, at 14–15.
51. See Gilligan, supra note 31, at 9; Deborah Tannen, You Just Don't Understand 43–46 (1990) [hereinafter Tannen, UNDERSTAND].
52. See Betty Lehan Harragan, Games Mother Never Taught You 75–78 (1977).
55. See Lichtenstein, supra note 54, at 50–51.
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more likely to have become accustomed to the rigors of overt competition and familiar with the application of societal rules to resolve intercompetitor controversies.

Competitive games teach boys that it is more enjoyable to win than to lose. They usually receive parental—particularly paternal—approval when they prevail. They learn that a positive mental attitude is likely to enhance their probability of success. It is thus not surprising that college men generally exude greater confidence in problem-solving situations than college women. Men expect to achieve more advantageous results than women in similar situations. This factor suggests that college males would be more successful than college females in competitive interactions, such as those involving negotiation simulations. Those individuals who begin bargaining encounters with greater confidence and higher aspiration levels tend to attain more favorable agreements.

They undermine opponent expectations and cause less confident adversaries to reassess their situations in ways that benefit the more confident participants.

In competitive settings, males are generally expected to behave more aggressively than females. Boys usually receive parental approval for aggressive and competitive tendencies, while girls are encouraged to be passive and dependent. During interpersonal transactions, men are more likely to employ “highly intense language” to persuade others, and they tend to be more effective when using this approach.

Women, on the other hand, are more likely to use less intense language during persuasive encounters, and they are inclined to be more effective behaving in this manner. During conversations, men tend to downplay their doubts, while women are likely to downplay their certainty, enabling male speakers to exude a greater degree of confidence in what they are saying. Females tend to employ language

56. See MACCOBY & JACKLIN, supra note 34, at 154–58.
57. See, e.g., Malcolm J. Grant & Vello Sermat, Status and Sex of Other as Determinants of Behavior in a Mixed-Motive Game, 12 J. Personality & Soc. Psychology 151, 154 (1969); Nadler & Nadler, supra note 29, at 6–7.
61. See Burgoon et al., supra note 60, at 284, 292.
62. See TANNEN, TALKING FROM 9 TO 5 35–36 (1994) [hereinafter TANNEN, 9 TO 5].
containing more disclaimers (e.g., “you know,” “it seems to me”) than males, which may be perceived by their listeners as indications of reduced confidence levels. Women are more likely than men to use more indirect language during conversations, which may be perceived as a sign of uncertainty, while men tend to make more direct statements, which enhances the appearance of male assertiveness. When women eschew traditionally feminine conduct and behave in a stereotypically masculine fashion, they are usually not rewarded. They are instead criticized for deviating from conventional male-female role expectations.

The competitive performance double standard adversely affects female students in other aspects of their law school and professional experiences. In their study of law students at the University of Pennsylvania, Lani Guinier, Michelle Fine, and Jane Balin found that students who openly demonstrate their intellectual capabilities through regular class participation are characterized differently by other students based on their gender. While male participants are given negative labels, these tend to be of a gender-neutral variety (e.g., “asshole”). Their female cohorts, however, are often given labels that directly relate to their femininity (e.g., “man-hating lesbian” or “feminazi dyke”). Women who act forcefully or competitively in professional settings may encounter similar challenges to their femininity. This disparate treatment of women may reflect male discomfort with women who behave in an unexpectedly “masculine” manner. It also places women in an unfair position and may be deliberately designed by dominant males to un-

63. See TANNEN, UNDERSTAND, supra note 51, at 228; Larry R. Smelzer & Kittie W. Watson, Gender Differences in Verbal Communications During Negotiations, 3 COMM. RES. REP. 74, 78 (1986).
64. See TANNEN, 9 TO 5, supra note 62, at 78–106; see also Deborah M. Kolb & Gloria G. Coolidge, Her Place at the Table: A Consideration of Gender Issues in Negotiation (Program on Negotiation Working Paper Series No. 88-5, Oct. 1988), at 20–21.
65. See TANNEN, UNDERSTAND, supra note 51, at 228; TANNEN, 9 TO 5, supra note 62, at 40; Clara Mayo & Nancy M. Henley, Nonverbal Behavior: Barrier or Agent for Sex Role Change, in GENDER AND NONVERBAL BEHAVIOR 3, 8 (Clara Mayo & Nancy M. Henley eds., 1981).
67. Guinier et al., supra note 66, at 51–52 & n.128.
68. See Kolb & Coolidge, supra note 64, at 23.
dermine female confidence and diminish their law school and professional achievements.  

Men in the Legal Negotiating class have occasionally indicated that they are particularly uncomfortable when female opponents obtain extremely beneficial results from them. A few have even indicated that they would prefer the consequences associated with nonsettlements to the possible embarrassment of "losing" to female opponents. While male students almost never apologize for their successes, a number of female class members indicate discomfort with their achievements and apologize to opponents whom they have outperformed. Even female students tend to be more critical of women who attain exceptional bargaining results than they are of male classmates who achieve equally advantageous negotiation terms.  

When men negotiate, they generally endeavor to maximize their own side's return, while women are inclined to emphasize the maintenance of relationships. This phenomenon may explain why women tend to employ more accommodating strategies than men when resolving conflicts. One scholar writes, "Women seem more likely to

70. Evidence suggests that the differential treatment of women in educational environments places female students at a disadvantage and undermines their confidence in their own capabilities. See Taunya Lovell Banks, Gender Bias in the Classroom, 14 S. ILL. U. L.J. 527, 529 (1990); Suzanne Homer & Lois Schwartz, Admitted but Not Accepted, 5 BERKELEY WOMEN'S L.J. 1, 33 (1989-90). Similar disparate treatment of women continues in practice and may also be employed to diminish female confidence. See Ninth Circuit Task Force on Gender Bias, Executive Summary of the Preliminary Report of the Ninth Circuit Task Force on Gender Bias, 45 STAN. L. REV. 2153, 2162-63 (1993); Karen Czapanskiy, Women in the Legal Profession: 1994, and the Challenges Continue, 2 VA. J. Soc. Pol'Y & L. 13 (1994).

71. This apprehension is consistent with studies indicating that since men assume they can generally outperform women, they are particularly threatened by women who demonstrate greater proficiency. See Patricia Yancey Martin, Gender, Interaction, and Inequality in Organizations, in GENDER, INTERACTION, AND INEQUALITY 208, 219 (Cecilia L. Ridgeway, ed., 1992).

72. See Cynthia Berryman-Fink & Claire C. Brunner, The Effects of Sex of Source and Target on Interpersonal Conflict Management Styles, 53 S. SPEECH COMM. J. 38, 44 (1987) (stating that men tend to compete in conflicts whereas women tend to compromise); S.S. Komorita, Cooperative Choice in a Prisoner's Dilemma Game, 2 J. PERSONALITY & SOC. PSYCHOL. 741, 744 (1965); see also Carol M. Rose, Bargaining and Gender, 18 HARV. J. L. & PUB. POL. 547, 550-51, 555 (1995) (indicating that women who are more inclined to behave cooperatively than men may be at a bargaining disadvantage with respect to distributive encounters).

prefer less adversarial methods of resolving disputes that do not harm the other side—relying on methods of problem solving and reconciliation rather than aggressive posturing. ..." This more accommodating style may be especially beneficial when long-term relationships are involved, because of its capacity to enhance business relationships over prolonged periods.

When men and women negotiate, they often have different expectations regarding the results they would prefer to achieve. Men tend to expect "equitable" bargaining distributions, while women tend to believe in "equal" exchanges. These predispositional differences may induce female negotiators to accept equal negotiating results despite their possession of superior relative bargaining strength, while male bargainers seek equitable exchanges that reflect relevant power imbalances. Their egalitarian propensity could disadvantage women who hesitate to use favorable power imbalances to obtain more beneficial results for their sides. This factor would be particularly important with respect to bargaining interactions that are primarily distributional in nature, such as those involving monetary exchanges.

A recent study by Professor Ayres has indicated that car dealers tend to treat male and female, and Caucasian-American and African-American, customers differently when they negotiate car prices. Salespeople give male buyers more favorable opening offers and more generous final offers than female customers under identical circumstances, and they favor Caucasian-American buyers over African-American customers. Final offers given to African-American females averaged almost $900 more in dealer profit than those given to Caucasian-American males. These differences may reflect opportunistic car salesperson behavior designed to take advantage of what are stereotypically perceived to be less proficient and less empowered female/minority bargainers, or they may reflect salesperson fears of being out-negotiated by female or minority customers.

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76. See Ayres, supra note 76, at 828 tbl.1.
Empirical evidence indicates that women are not as effective when employing deceptive tactics as their male cohorts. Studies have shown that men are more comfortable in situations in which they are expected to dissemble, and they find it easier to behave in a Machiavellian manner. Women are inclined to be more trusting than men, and they tend to be less forgiving of deceitful behavior than their male cohorts. These factors should further benefit male negotiators, because individuals involved in legal negotiations are usually endeavoring to mislead their opponents.

On the one hand the negotiator must be fair and truthful; on the other he must mislead his opponent. Like the poker player, a negotiator hopes that his opponent will overestimate the value of his hand. Like the poker player, in a variety of ways he must facilitate his opponent's inaccurate assessment. The critical difference between those who are successful negotiators and those who are not lies in this capacity both to mislead and not to be misled.

Despite the various factors that would support the theory that more competitive male negotiators should achieve more beneficial results than female negotiators, empirical studies involving competitive interactions do not consistently substantiate this supposition. Psychologists attempting to measure male-female differences during competitive encounters have most frequently employed variations on the "Prisoner's Dilemma" exercise. The Prisoner's Dilemma archetype

80. See Maccoby & Jacklin, supra note 34, at 260.
81. See Jeffrey Z. Rubin & Bert R. Brown, The Social Psychology of Bargaining and Negotiation 172–73 (1975). Since studies indicate that trusting negotiators are more likely to behave cooperatively than less trusting bargainers, the tendency of women to be more trusting might induce them to be initially more cooperative than their more devious male cohorts. See Rubin & Brown, supra at 183.
entails two criminal suspects who are caught and separately interrogated by the police, who lack clear evidence of their guilt. If one confesses, he will receive a light sentence, while his partner will be given a lengthy term of imprisonment. If both confess, they each receive intermediate terms, while if neither confesses, they both receive lighter terms. If the stereotypical belief that men are more competitive than women is correct, one might reasonably expect men to behave more competitively when they participate in the Prisoner’s Dilemma game. Men would be more likely to establish higher aspiration levels and would endeavor to take advantage of the perceived feminine tendency to be more accommodating. Various Prisoner’s Dilemma studies have, however, discerned few or no gender differences. In one compilation of numerous Prisoner’s Dilemma studies, many of the cited studies found no statistically significant gender differences with respect to competitive tendencies; of those experiments that did discern

83. The most basic formulation of a Prisoner’s Dilemma psychological exercise involves two participants who must simultaneously select Option A or Option B, for a possible payoff of one, five, or eight points. Each party’s result is dependent upon the interaction between their choice and the option selected by the other participant as shown in the diagram below. See Maccoby & Jacklin, supra note 34, at 249.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
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<tr>
<td>Player 1</td>
<td>5,5</td>
<td>8,1</td>
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<tr>
<td>Player 2</td>
<td>AA</td>
<td>BA</td>
</tr>
<tr>
<td>A</td>
<td>1,8</td>
<td>2,2</td>
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<tr>
<td>B</td>
<td>AB</td>
<td>BB</td>
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Subjects must engage in a number of iterations. A/A is the “cooperative” choice, because this combination enables both participants to maximize their joint gain over repeated trials. Either person may “defect” and select Option B, hoping to obtain a reward of eight compared to their opponent’s one. The opportunistic participant’s short-term benefit is likely to be offset by the other participant’s likely response of shifting from Option A to Option B, to minimize his or her future exposure. This shift results in a gain of only two for each participant on future iterations. It is thus apparent that cooperative behavior ensures a diminished, but safer, return of five for both on each trial. See Maccoby & Jacklin, supra note 34, at 251.

84. See supra note 57 and accompanying text.
85. See supra notes 72–74 and accompanying text.
86. See Maccoby & Jacklin, supra note 34, at 249–51; Rubin & Brown, supra note 81, at 169–74.
different behavior, some found males to be more competitive, and
some found females to be more competitive. Almost identical find-
ings were obtained with respect to cooperative behavior. Most studies
discovered no difference based upon participant gender, while others
obtained mixed results.

Various factors might explain why the anticipated gender differ-
ces did not materialize. In their study, Grant and Sermat found that
women could be both more cooperative and more competitive, with-
out being submissive. Furthermore, when men and women interact
in competitive environments, men occasionally make the mistake of
assuming that the women will not be as competitive, and these males
behave less competitively. Men who modify their conduct based on
this stereotype merely provide the female participants with an inher-
ent advantage. In addition, women who encounter men in
competitive environments often work more diligently to achieve op-
timal results. "It is as if the men [are] 'brought down' by the women
and the women [are] 'brought up' by the men."

Other important gender differences occur when men and women
interact in competitive settings. Although women have been found to
employ "less powerful language when they are in less powerful roles," they use equally forceful language when they occupy positions of
equality with men. During most of the Prisoner's Dilemma studies, the male and female participants were placed in positions of relative equality.

87. See MacCoby & Jacklin, supra note 34, at 251–53 & tbs. 7.2 and 7.3 (summarizing
results of Prisoner's Dilemma studies).
88. See, e.g., Grant & Sermat, supra note 57, at 156.
89. See Grant & Sermat supra note 57, at 156; see also Teitelbaum et al., supra note 31, at
474 (finding that while both male and female practitioners adapted to the competi-
tive aspects of legal practice, women attorneys demonstrated a greater commitment to
cooperative values as well as competitive values).
90. See Jeffrey Bedell & Frank Sistrunk, Power, Opportunity Costs, and Sex in a Mixed-
Motive Game, 25 J. Personality & Soc. Psychol. 219, 225 (1973); see also Kwok
Leung & E. Allan Lind, Procedural Justice and Culture: Effects of Culture, Gender, and
Investigator Status on Procedural Preferences, 50 J. Personality & Soc. Psychol.
1134, 1138 (1986) (males more competitive against other males than against fe-
males).
91. Anatol Rapoport & Albert M. Chammah, Sex Differences in Factors Contributing to
the Level of Cooperation in the Prisoner's Dilemma Game, 2 J. Personality & Soc.
Psychology 831, 835 (1965).
92. Burrell et al., supra note 29, at 453.
Another factor that may explain the lack of gender differences is the impact of educational attainment. "When individuals are trained to perform a specific role, gender communication-behavior differences disappear . . . ." Highly educated professionals exhibit a similar trend, with women adopting more masculine styles of communication. These findings would suggest that if professionals are trained in mediation or negotiation skills, gender-based communication differences would be minimized. This would not, however, guarantee that male and female subjects would be viewed identically even when they behaved similarly. Male-female stereotypes could still cause some observers to perceive women participants as less controlling and less influential than male participants, even in circumstances in which the women were objectively exhibiting dominant behavior.

One might reasonably expect gender-based communication stereotypes to place women at a disadvantage when facing legal negotiation exercises in the classroom. They would be likely to be perceived as less dominant and less forceful, and they would be expected to be less logical and more emotional. Nonetheless, two significant factors counterbalance these stereotypes. First, the advanced education possessed by law students and the specific training received in a legal negotiation course would minimize gender-based communication differentials. Second, the female negotiators may benefit from the established fact that women are typically more sensitive to nonverbal messages than their male cohorts. Since a significant amount of critical communication during interpersonal transactions is nonverbal, the enhanced ability of female negotiators

94. See Smelser & Watson, supra note 63, at 77–78; see also Tannen, Understand, supra note 51, at 235–38 (indicating that when women interact with men, they tend to adapt to male norms).
96. See Burrell et al., supra note 29, at 463.
97. See Nadler & Nadler, supra note 29, at 2.
98. See supra notes 29–37 and accompanying text.
99. See supra notes 93–95 and accompanying text.
101. See, e.g., Edwards & White, supra note 10, at 152–58.
to decode such signals could offset any disadvantage associated with latent stereotyping.

The aversion of women to overt competition might be expected to cause a greater percentage of female students to take the Legal Negotiating course on a credit/no-credit basis in an effort to diminish the competitive pressures generated by the class exercises. Their more openly competitive male cohorts, on the other hand, might endeavor to heighten their competitive experiences by taking the class for a conventional grade, with the expectation that they will earn grades of “A-” and above. The males who do elect the credit/no-credit option may also be motivated by factors different from those inducing risk averse females to select this grading alternative. These men may merely wish to obtain an easy two-credit hours without the need for a total personal commitment to the course exercises. If women electing the credit/no-credit option are seeking to avoid course competition, while men who make the same grade selection are attempting to minimize their participation on negotiation exercises, one might also expect the performance of the pass/fail women to exceed that of the credit/no-credit men.

Professor Deaux succinctly recognized that behavioral predictions based upon stereotypical beliefs regarding men and women are likely to be of questionable validity in most settings:

[D]espite the persistence of stereotypes, the studies of social behavior suggest that there are relatively few characteristics in which men and women consistently differ. Men and women both seem to be capable of being aggressive, helpful, and alternately cooperative and competitive. In other words, there is little evidence that the nature of women and men is so inherently different that we are justified in making stereotyped generalizations.102

If Professor Deaux’s assessment is correct, one should not expect to find any statistically significant difference between the results achieved by men and women on legal negotiation course exercises. For similar reasons, one should not expect any meaningful differences with respect to scores attained on course papers.

102. Deaux, supra note 1, at 144; see also Rhode, supra note 48, at 1551–53.
III. Statistical Findings

In this section, we will examine empirically the differences between the risk preferences and performances of men and women in the Legal Negotiating course. The theoretical and empirical literature on gender differences and gender-based competitive behavior suggests six testable hypotheses. We consider whether there are significant differences in (1) the rate at which women and men select the credit/no-credit option; (2) the performances of credit/no-credit men and women on the course paper; (3) the negotiation performance differentials between graded and credit/no-credit women versus graded and credit/no-credit men; (4) negotiation performance of graded women and graded men; (5) negotiation performance of credit/no-credit women and credit/no-credit men; and (6) course paper performance of graded women and men. We have subjected each hypothesis to statistical analysis designed to evaluate whether any observed difference is attributable to chance. An observed difference between the genders may be due to random considerations, such as the idiosyncratic characteristics of particular students who happened to be selected for this study. Otherwise, an alternative explanation must account for any observed difference. One alternative explanation is that a difference in the personal characteristics of men and women generally accounts for the perceived variation.

A. Experimental Design

Careful design of the experiment from which data are collected and careful statistical analysis work together to suggest the cause of an observed difference between two groups. Chance is one possible cause. For each of the six hypotheses considered here, the alternative explanation of interest relates to gender. When evaluating the risk preferences and performances of men and women in the Legal Negotiating course, a number of other alternative explanations are possible. One such alternative explanation for observed differences is the possibility that men and/or women who decide to enroll in the course are systematically different from other female and male law students in a way that obscures the similarities or differences in that larger group.

103. See infra Table A for our hypotheses.
Another alternative is that the means by which performance of students is measured is biased in favor of one group. Logic and an understanding of issues to be examined empirically (rather than any particular appreciation of the statistical method) may identify other plausible alternatives. A carefully designed experiment attempts to make irrelevant alternatives implausible.

The design of this experiment reduces the plausibility of both of the irrelevant alternatives identified above. Because students voluntarily enrolled in the Legal Negotiating course, the decisions and performances studied are not necessarily representative of those that would have been produced by a random selection from the law school student body. Permitting students to elect the credit/no-credit option, however, increases the representativeness of the group. In particular, risk averse students or students disinclined toward the competitive nature of negotiation might not enroll without this credit/no-credit option. Similarly, the option encourages students who are more tentative about skills courses to explore this course. Allowing this option increases the range of students enrolled in the course and thereby reduces (though it does not eliminate) the possibility that these students are systematically different from law students generally.

The chosen method for measuring performance reduces the plausibility of the second irrelevant alternative explanation for observed differences between genders—an evaluative bias in favor of one group. Performance might have been measured by a subjective appraisal of the quality of each student’s negotiation technique. Such an appraisal would have permitted an evaluation of whether men and women employ identical negotiation styles and of which style was more effective. A more objective alternative is to evaluate performance strictly on the basis of results obtained for the (hypothetical) clients. Subjective appraisal is more likely to produce a biased result for a variety of reasons, one of which is that the gender of the evaluator may bias her or him towards a particular student or style. The decision to measure results rather than style may reveal something about the preferences of the designers of the experiment, but this more objective measure reduces the plausibility of an irrelevant alternative explanation, which may be characterized as measurement error or observer bias in this experiment.

In order to reduce bias, we measured achievement by the objective results each side obtained through negotiation. The results of each exercise were rank-ordered from high to low for each side based upon
the negotiating team’s results measured against the confidential scoring information provided prior to the exercise. This study was conducted to consider whether, once the evaluative criteria are defined, male and female students are able to obtain similar results. The results do not shed light on whether men and women use similar methods to obtain those results, but they do aid our evaluation of whether men and women lawyers are able to achieve similar financial outcomes for their clients.

B. Hypothesis Testing

The statistical method of analysis involves comparing the plausibility of each hypothesis derived from theoretical and other empirical work to its relevant alternative. We have organized our hypotheses—Risk Preferences and Class Performance and their alternatives—as follows:

| Table A |
|---|---|
| **NULL HYPOTHESES** | **ALTERNATIVE HYPOTHESES** |
| Category 1: Risk Preferences | 
| 1. There is no difference in the rate at which women and men select the credit/no-credit option. | Women are more likely to select the credit/no-credit option than men. |
| 2. Among credit/no-credit students, there is no difference between women and men in performance on the course paper. | Among credit/no-credit students, women are likely to perform better on the course paper than are men. |

104. Within the group of enrolled students, participants in each exercise are randomly assigned partners and opponents. This random assignment reduces the plausibility of an alternative explanation for differences in performance that might be related to another irrelevant alternative—systematic gender-based means of selecting partners or opponents.

105. By clearly defining the evaluative criteria, we are explicitly testing Catharine MacKinnon’s statement: “In academic and professional areas, [the reality is]: you define what merit is, we will meet it.” DuBois et al., supra note 2, at 22.
Table A
Continued

NULL
HYPOTHESES

3. There is no difference between the negotiation performance differentials of graded and credit/no-credit women and graded and credit/no-credit men.

ALTERNATIVE
HYPOTHESES

The negotiation performance differential between graded and credit/no-credit women is smaller than the performance differential between graded and credit/no-credit men.

Category 2: Class Performance

4. Among graded students, there is no difference between women and men on the negotiation exercises.

Among graded students, women perform less well than men on the negotiation exercises.

5. Among credit/no-credit students, there is no difference between women and men in performance on the negotiation exercises.

Among credit/no-credit students, women perform less well than men on the negotiation exercises.

6. Among graded students, there is no difference between women and men in performance on the course paper.

Among graded students, there is a difference between women and men in performance on the course paper.

For each of the six hypotheses, there is a relevant alternative of interest to this study. The six hypotheses are stated as “null” hypotheses, suggesting that there is no difference between women and men (the difference is “null” or “zero”). Five of the six stated alternative hypotheses reflect preconceived notions of the difference between men and women based on theoretical scholarship and empirical research.  


107. See supra Part II.
Alternative 1 reflects the view that due to a lower preference for risk and competition, women are more likely than men to select the credit/no-credit option for the Legal Negotiating course.\textsuperscript{108} Alternatives 2 and 3 reflect the view that women are more likely than men to select the credit/no-credit option in order to reduce the unpleasantness associated with risk and competition rather than to obtain easy credit without much work.\textsuperscript{109} If that view of women’s motivations is correct, then credit/no-credit women would be more likely to work as diligently as graded colleagues. Their grades should exceed those of credit/no-credit males whose motivation is not to avoid competition but to get easy credit. Alternatives 4 and 5 reflect the view that women are likely to perform less well in negotiations than men because of their different personal characteristics. Where there is a preconceived notion about the direction of a difference, a “one-tailed” statistical test is appropriate to test the null hypothesis.\textsuperscript{110} A statistical test is “one-tailed” if it compares a null hypothesis to an alternative hypothesis, revealing the expected direction of a difference, such as an expectation that women will perform less well.

For each null hypothesis, the alternative reflects theories or knowledge gleaned from past studies. There is no theoretical or empirical support for any preconceived notion about the relative performance of graded men and women on the paper assignment. Alternative 6 simply hypothesizes that there is a difference but states no preconception about which group will perform better. When there is no preconceived notion about the direction of a difference, a “two-tailed” statistical test is appropriate.\textsuperscript{111} A statistical test is “two-tailed” in the sense that it compares the null to an alternative hypothesis reflecting an expectation that there is a difference (in performance, for instance), but reflecting no expectation about whether women perform better than men or vice versa.

Hypothesis testing offers information about the plausibility of the null hypothesis. Specifically, statistical tests calculate the probability that any observed differences between men and women are due to the random selection of people included in the study rather than some

\textsuperscript{108} See supra notes 48–71 and accompanying text.
\textsuperscript{109} See supra notes 48–71 and accompanying text.
\textsuperscript{110} See \textit{Robert D. Mason, Statistical Techniques in Business and Economics} 280 (4th ed. 1978) (offering examples of one-tailed tests).
\textsuperscript{111} See \textit{Mason, supra} note 110, at 280–81 (offering examples of two-tailed tests).
alternative explanation. The probability that the observed difference is due to chance is referred to as the p-value. Social scientists traditionally reject the null hypothesis when the p-value is less than .05, which indicates a probability less than 1 in 20 that the observed difference is due to chance rather than an alternative explanation. When the probability is high that the observed difference is due to chance, greater than this 5% threshold, social scientists traditionally do not reject the null hypothesis.

The logical implications of rejecting and failing to reject a null hypothesis are different. Refusing to reject the null hypothesis here means that the data provide no substantial evidence that there is any difference between male and female students on the criterion being measured. When the p-value is greater than .05, social scientists conclude that there is no statistically significant difference between the groups. In our study, rejecting a null hypothesis means that the data provide sufficient evidence that an alternative explanation accounts for the differences between women and men. In this case, social scientists conclude that there is a statistically significant difference between the groups. The p-value may not be relied upon, however, as evidence that the particular alternative hypothesis of interest is the alternative explanation. Rather, researchers must rely on logic and careful experimental design to eliminate irrelevant alternative explanations.

112. Because these tests are based on an assumption of random selection, minimizing bias in the selection of participants is important. See supra notes 104–06 and accompanying text.
113. See Barnes & Conley, supra note 106, at 33–34 (explaining the term p-value in greater detail).
114. See James W. Loewen, Social Science in the Courtroom 75 (1982) (reporting that researchers usually like to have at least the .05 level of significance, which is the equivalent to a p-value of .05); see also Barnes & Conley, supra note 106, at 34 (explaining that the choice of the .05 significance level is a matter of choice and convention).
115. Statistical significance refers to the probability that a particular statistic, such as the difference between two numbers, is due to chance rather than to an alternative explanation. Practical significance is not a technical term. If a numerical difference is practically significant, it is large enough to influence a decision maker. How large a numerical difference must be to “make a difference” to a decision maker is solely a matter of judgment for that person. See Barnes & Conley, supra note 106, at 33–34. See infra text accompanying notes 121–24 for a textual illustration of how a statistical analyst applies these two terms.
116. See supra notes 104–06 and accompanying text.
C. Data

The data analyzed in this paper reflect information on all students participating in one of eleven Legal Negotiating classes taught by Professor Craver from 1986 to 1996. The course was not offered in 1987 but was taught in both Spring and Fall Semesters of 1992. These classes are designated by the labels “92” and “92.5” respectively. The total number of students involved in the study was 612. Data for each student include gender, grading method, negotiation score, and paper score.

D. Results

We have organized our statistical analyses in two sections focusing on 1) gender differences in preferences for risk and competition and 2) gender differences in performance in the Legal Negotiating class.

1. Gender Differences in Preferences for Risk and Competition

The statistical analysis of gender differences in preferences for risk and competition takes two approaches. The first relies on the students’ revealed preferences as indicated by their selecting the credit/no-credit option. The negotiation course involves skills untested by other law school offerings. To avoid putting their grade point averages and/or self-esteem at risk, students may opt to conceal their level of achievement behind the ambiguous “credit” notation on a transcript. The second approach to risk preferences relies on the difference in performance between graded and credit/no-credit students. Students may opt for credit/no-credit in order to avoid risk or to slack off. If women are more likely than men to desire to avoid the risks presented by a negotiation course, then women who select the credit/no-credit option may be doing so to protect their GPAs or self-esteem, while men are more likely to be doing so in order to slack off. Because slackers are likely to perform less well than risk avoiders, comparing the performance of graded and credit/no-credit students of different genders may reveal differences in risk preferences of women and men.
a. Revealed Preferences for Risk

The experimental design produced three ways of looking at preferences for risk and competition. The first is an analysis of the rates at which women and men selected the credit/no-credit option. The second and third compare the performance of graded and credit/no-credit women and men.

The first null hypothesis is that there is no difference in the rate at which women and men select the credit/no-credit option. In eight out of the eleven classes studied, a higher percentage of women selected the credit/no-credit option. The percentage of men selecting the credit/no-credit option ranged from a low of 13.3% in 1990 to a high of 42.4% in 1992 and averaged 26.7% for the eleven years studied. For women, the comparable range was from a low of 13.6% in 1986 to a high of 65.0% in 1994, with an average of 38.8%.

Figure 1 depicts the difference between the percentage of men and women taking the course credit/no-credit. In 1986, for example, a higher percentage of men selected that option than did women (17.4% compared to 13.6%, a difference of 3.8 percentage points). In 1989, by contrast, a lower percentage of men than women selected the option (14.7% compared to 29.2%, a difference of -14.5 percentage points).

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117. See supra Table A.
Two traditional statistical tests assist us in interpreting these results, the sign, or “binomial probabilities,” test and the chi-square test. Even if there is no relevant difference between the desire of men and women to avoid risk and competition, there nevertheless might be a disproportionate number of years in which the percentage of one gender exceeded the percentage of another gender just by chance.

A higher proportion of women than men selected the credit/no-credit option in eight of the eleven years studied. It would be surprising if the percentages were exactly equal for any given year. It is impossible for each gender to have the same number of years in which their percentage was higher, given that there were an odd number of years. How surprising is it to observe the disproportion seen here?

The sign test yields the probability of observing eight or more years in which a higher percentage of women selected the option out of the eleven classes if there really is no difference in the preferences of men and women. This test of the null hypothesis yields a p-value of .113, indicating that 11.3 percent of the time a disproportion this great or larger could occur just by chance. In order to reject the hypothesis that women and men are equally likely to elect the credit/no-credit option, there must be a less than five percent chance that the results shown in Figure 1 are due to chance. Because the probability of this collection of observations occurring by chance is 11.3%, we cannot reject the null hypothesis, and, moreover, there is little support for the theory that women are more likely to opt for credit/no-credit.

One might observe from Figure 1, however, that in years where the proportion of women exceeds the proportion of men, the difference is much greater than in years when the proportion of men selecting the option exceeds the proportion of women. It is informative to look at each individual year to evaluate whether those apparent differences are large enough to be statistically significant.

118. See WILLIAM L. HAYS, STATISTICS 136–41 (4th ed. 1988) (discussing the sign test as an application of the binomial distribution); BARNES & CONLEY, supra note 106, at 147–51 (discussing p-values for binomially distributed variables). Among other conditions necessary for the binomial approach to be appropriate is the requirement that the events being measured (here, the rates at which men and women select the credit/no-credit option in a given year) are independent of one another. See BARNES & CONLEY, supra note 106, at 148. It is possible that Legal Negotiating students from one year pass on their credit/no-credit preferences to succeeding class members, but we have no evidence of the extent of this phenomenon. Such evidence would be necessary to employ an alternative to the binomial test.
The chi-square test is a traditional statistical approach to evaluating whether one category of people is disproportionately represented in a larger group.\textsuperscript{119} For this experiment, the chi-square approach tests whether men and women are randomly distributed among those selecting the credit/no-credit option. A chi-square test is two-tailed. Accordingly, the null hypothesis is that there is no difference in the rate of selecting the option between men and women, while the alternative is that there is a difference.\textsuperscript{120} As Table 1 reveals, there are three years in which the distribution of men and women among those selecting the option is unlikely to have been random (i.e., the p-value is less than .05).

\textbf{Table 1}

\textbf{Rate of Selecting Credit/No-Credit Option}

\textbf{for Men and Women}

<table>
<thead>
<tr>
<th></th>
<th>% of men</th>
<th>% of women</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>17.4</td>
<td>13.6</td>
<td>3.8</td>
<td>.73</td>
</tr>
<tr>
<td>1988</td>
<td>24.3</td>
<td>22.2</td>
<td>2.1</td>
<td>.86</td>
</tr>
<tr>
<td>1989</td>
<td>14.7</td>
<td>29.2</td>
<td>-14.5</td>
<td>.18</td>
</tr>
<tr>
<td>1990</td>
<td>13.3</td>
<td>39.3</td>
<td>-26.0</td>
<td>.02</td>
</tr>
<tr>
<td>1991</td>
<td>18.2</td>
<td>42.9</td>
<td>-24.7</td>
<td>.04</td>
</tr>
<tr>
<td>1992</td>
<td>42.4</td>
<td>40.0</td>
<td>2.4</td>
<td>.87</td>
</tr>
<tr>
<td>1992.5</td>
<td>35.5</td>
<td>35.7</td>
<td>-0.2</td>
<td>.99</td>
</tr>
<tr>
<td>1993</td>
<td>29.5</td>
<td>33.3</td>
<td>-3.8</td>
<td>.78</td>
</tr>
<tr>
<td>1994</td>
<td>23.8</td>
<td>65.0</td>
<td>-41.2</td>
<td>.00</td>
</tr>
<tr>
<td>1995</td>
<td>38.7</td>
<td>60.0</td>
<td>-11.3</td>
<td>.11</td>
</tr>
<tr>
<td>1996</td>
<td>34.5</td>
<td>36.4</td>
<td>-1.9</td>
<td>.89</td>
</tr>
<tr>
<td>All</td>
<td>26.7</td>
<td>38.8</td>
<td>-12.1</td>
<td>.00</td>
</tr>
</tbody>
</table>

From a statistical perspective, women were significantly overrepresented in three years (1990, 1991, and 1994) and were never significantly underrepresented. There are eight years in which the gender distribution was not skewed in either direction in a statistically

\begin{footnotesize}
\textsuperscript{119} See Gravetter & Wallnau, supra note 106, at 356–57 (describing the chi-square test and providing examples of its application); Barnes & Conley, supra note 106, at 200–09 (describing the analysis of data using the chi-square test).

\textsuperscript{120} See supra Table A.
\end{footnotesize}
significant way. The overrepresentation of women in the eleven classes combined, however, was unlikely to have been due to random selection. In the aggregate data, the percentage of women opting for credit/no-credit was 12.1 percentage points higher than the percentage of men doing so.

Evaluating the significance of the aggregate overrepresentation of women among those selecting the credit/no-credit option involves at least three steps. The first is to consider the statistical significance of the difference between the two groups. As described above, the statistical significance of a difference between two groups is determined by the researcher choosing a level (a p-value) below which he or she feels comfortable rejecting the null hypothesis that there is no difference between the two groups. The second step is to calculate the p-value associated with the observed difference. Having chosen a threshold significance level of .05, it is plain to see that the difference between the rates at which men and women selected the credit/no-credit option in the aggregate group is statistically significant. The p-value for that difference is .00, less than the threshold level. The size of the group for which the p-value is calculated has a great deal of influence on the resulting p-value. The aggregate data include 612 students, a large group. In such a large group, even a small difference might be statistically significant. Thus, there is a third step: evaluating whether the size of the difference is noteworthy.

The issue of whether a difference is noteworthy or negligible is a practical, rather than a statistical, question. Thus, a researcher can evaluate the "practical" significance of the difference between male

121. See supra note 114 and accompanying text.
122. The p-value is the statistical indicator of our willingness to conclude that a difference is statistically significant. The statistical significance of an observed difference between two subgroups, such as female and male students, depends mathematically on the variance within the larger group whose characteristics are of interest to the investigator and the size of the sample used to examine that characteristic. See Barnes & Conley, supra note 106, at 276. "Variance" is a statistical term describing the diversity within a group of observations. A sample with a larger variance contains more observations much larger or much smaller than the average observation. See Barnes & Conley, supra note 106, at 127. If the variance within a group is large, we will be more confident that our sample has captured the diversity within the group if the sample is large. Because of its size, a larger random sample is inherently more likely to include a more representative collection of the members of the larger group. As a result, the larger the sample, the more willing we are to conclude that a given difference is statistically significant. The mathematics of the calculation of p-values reflect this willingness.
gate data, 12.1 percentage points, only by reference to his or her judgment or to a convention in the field of research in which he or she is engaged. In this context, there is no such convention, but our judgment suggests that a difference of this magnitude is noteworthy. In the aggregate group of 612 students, 26.7% of the 367 men and 38.8% of the 245 women opted for credit/no-credit. If only 26.7% of the women had opted for credit/no-credit, there would have been only sixty-five women in the credit/no-credit group instead of ninety-five. An increase of thirty women over what would be expected if women behaved as men (a forty-six percent increase) seems to us to be a large difference.

b. Performance-Based Analysis of Risk Preferences

In addition to the selection-based tests of the hypothesis regarding the reduced preference of women for risk and competition, there are two performance-based tests. The first compares the relative performance on the required papers of men and women who have selected the credit/no-credit option. Theories on gender-based differences discussed earlier suggest that women will perform better, because they have selected this option to avoid risk rather than to earn easy credit. Conversely, the same theories suggest that men are more likely to have selected the option in order to earn easy credit. If this motivational difference translates into better performance, paper grades for credit/no-credit women should be higher than for credit/no-credit men. Figure 2 describes the differences between these two groups.

123. See BARNES & CONLEY, supra note 106, at 33–35 (distinguishing statistical significance from practical and legal significance).
Figure 2 reveals that credit/no-credit women outperformed men on papers in seven out of eleven years and were outperformed four out of eleven years. For the eleven-year period as a whole, credit/no-credit women were outperformed by similarly situated men. The data in Figure 2 suggests that there is no meaningful difference between the performance of credit/no-credit women and men. A test of statistical significance confirms this.

The t test is a traditional statistical method for analyzing the significance of a difference between two means, such as the mean (average) paper scores of men and of women. The t test reveals that there was not a single year in which the difference was sufficiently great to justify rejecting the null hypothesis that there was no difference between the performance of men and women; the p-values all exceed .05. The average difference of only 0.26 points for the aggregate data similarly failed to establish a statistically significant difference for the period as a whole; the p-value of .41 exceeds the threshold level of .05. Table 2 reports the differences and the p-values associated with t tests for each period. There is insufficient support in

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124. See generally Hays, supra note 118, at 295–303 (discussing t test process and examples); Barnes & Conley, supra note 106, at 106–07 (describing uses of the t test for significance of differences between sample means).

125. See supra Table A.
these data to pursue the alternative hypothesis that credit/no-credit women outperform credit/no-credit men.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Average for men</th>
<th>Average for women</th>
<th>Difference</th>
<th>p-value(^{126})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>24.0</td>
<td>25.0</td>
<td>-1.0</td>
<td>.22</td>
</tr>
<tr>
<td>1988</td>
<td>30.1</td>
<td>29.0</td>
<td>1.1</td>
<td>.90</td>
</tr>
<tr>
<td>1989</td>
<td>30.4</td>
<td>30.9</td>
<td>-.5</td>
<td>.25</td>
</tr>
<tr>
<td>1990</td>
<td>32.5</td>
<td>32.1</td>
<td>.4</td>
<td>.62</td>
</tr>
<tr>
<td>1991</td>
<td>32.2</td>
<td>32.8</td>
<td>-.6</td>
<td>.20</td>
</tr>
<tr>
<td>1992</td>
<td>27.9</td>
<td>28.2</td>
<td>-.2</td>
<td>.34</td>
</tr>
<tr>
<td>1992.5</td>
<td>33.5</td>
<td>34.0</td>
<td>-.5</td>
<td>.18</td>
</tr>
<tr>
<td>1993</td>
<td>33.1</td>
<td>33.0</td>
<td>.1</td>
<td>.53</td>
</tr>
<tr>
<td>1994</td>
<td>31.2</td>
<td>33.0</td>
<td>-1.8</td>
<td>.09</td>
</tr>
<tr>
<td>1995</td>
<td>22.1</td>
<td>22.9</td>
<td>-.8</td>
<td>.28</td>
</tr>
<tr>
<td>1996</td>
<td>28.4</td>
<td>25.6</td>
<td>2.8</td>
<td>.93</td>
</tr>
<tr>
<td>All</td>
<td>29.5</td>
<td>29.8</td>
<td>-.26</td>
<td>.41</td>
</tr>
</tbody>
</table>

The final hypothesis related to risk preference compares the negotiation exercise performance of graded students of both genders with that of credit/no-credit students. If women are motivated to select credit/no-credit in order to avoid risk and/or competition rather than to facilitate slacking, their grades on the negotiation exercises should

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126. Two underlying assumptions of the \( t \) test are that in the population (here, law students) from which the data in the two groups are collected, the variables (here, grades) are normally distributed and have equal variance (roughly, are arrayed in a similar way throughout the range of grades from high to low). Statistical tests built into the statistical software used for this study, NCSS 6.0, suggest that, for the variable "paper grades," those assumptions were not met for the variable "paper grades" with respect to the aggregate data only. Generally, and in this particular case, "quite severe departures from normality seem to make little practical difference." Hays, supra note 118, at 303. Nevertheless, the statistical software employed in this study provides alternative tests to be used when the assumptions fail, and we employed those alternatives where appropriate. Calculation of p-values using those alternative tests do not change the conclusions drawn from any of the \( t \) tests reported in this paper. In every case, the \( t \) test and the alternative tests would lead to the same rejection or failure to reject the null hypothesis.
be similar to the grades for women who chose to take the course for a grade. By contrast, if men select credit/no-credit in order to take it easy, their grades for the negotiation exercise should be different from grades for men who choose to take the course for a grade. If these theories are correct, there should be a larger grade differential for the two categories of men than for the two categories of women.

Tables 3 and 4 display the negotiation grade differentials for the two categories of men and for the two categories of women, respectively. Table 3 reveals, for instance, that graded men scored an average of 6.4 points higher than credit/no-credit men on their negotiation exercises in 1986 (30.8 for graded men and 24.4 for credit/no-credit men). Table 4 reveals that, in 1986, graded women scored an average of 6.8 points higher than credit/no-credit women on the negotiation exercises. Contrary to our theory, there was a bigger negotiation grade differential for women than for men in 1986.

**Table 3**  
**Negotiation Grade Differences between Graded and Credit/No-Credit Men**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average for graded men</th>
<th>Average for c/n-c men</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>30.8</td>
<td>24.4</td>
<td>6.4</td>
<td>.04</td>
</tr>
<tr>
<td>1988</td>
<td>38.1</td>
<td>40.4</td>
<td>-2.3</td>
<td>.74</td>
</tr>
<tr>
<td>1989</td>
<td>42.3</td>
<td>35.3</td>
<td>6.9</td>
<td>.10</td>
</tr>
<tr>
<td>1990</td>
<td>43.0</td>
<td>37.6</td>
<td>5.4</td>
<td>.19</td>
</tr>
<tr>
<td>1991</td>
<td>42.3</td>
<td>36.7</td>
<td>5.6</td>
<td>.10</td>
</tr>
<tr>
<td>1992</td>
<td>37.3</td>
<td>32.2</td>
<td>5.1</td>
<td>.05 127</td>
</tr>
<tr>
<td>1992.5</td>
<td>39.9</td>
<td>40.6</td>
<td>-.7</td>
<td>.57</td>
</tr>
<tr>
<td>1993</td>
<td>40.1</td>
<td>39.4</td>
<td>.7</td>
<td>.42</td>
</tr>
<tr>
<td>1994</td>
<td>42.3</td>
<td>35.7</td>
<td>6.6</td>
<td>.07</td>
</tr>
<tr>
<td>1995</td>
<td>32.8</td>
<td>31.2</td>
<td>1.6</td>
<td>.32</td>
</tr>
<tr>
<td>1996</td>
<td>36.4</td>
<td>30.9</td>
<td>5.5</td>
<td>.06</td>
</tr>
<tr>
<td>All</td>
<td>39.3</td>
<td>35.3</td>
<td>4.0</td>
<td>.00</td>
</tr>
</tbody>
</table>

127. For 1992, the p-value was .053, which is above the threshold of .05. Table 3 shows p-values rounded off to two decimal places.
Table 4
NEGOTIATION GRADE DIFFERENCES BETWEEN
GRADED AND CREDIT/NO-CREDIT WOMEN

<table>
<thead>
<tr>
<th>Year</th>
<th>Average for graded women</th>
<th>Average for c/n-c women</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>31.3</td>
<td>24.5</td>
<td>6.8</td>
<td>.10</td>
</tr>
<tr>
<td>1988</td>
<td>39.2</td>
<td>37.3</td>
<td>1.9</td>
<td>.37</td>
</tr>
<tr>
<td>1989</td>
<td>40.5</td>
<td>40.2</td>
<td>0.3</td>
<td>.48</td>
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<tr>
<td>1990</td>
<td>42.2</td>
<td>31.5</td>
<td>10.7</td>
<td>.00</td>
</tr>
<tr>
<td>1991</td>
<td>45.1</td>
<td>33.0</td>
<td>12.1</td>
<td>.00</td>
</tr>
<tr>
<td>1992</td>
<td>38.9</td>
<td>35.8</td>
<td>3.1</td>
<td>.26</td>
</tr>
<tr>
<td>1992.5</td>
<td>42.0</td>
<td>37.3</td>
<td>4.8</td>
<td>.11</td>
</tr>
<tr>
<td>1993</td>
<td>45.0</td>
<td>31.7</td>
<td>13.3</td>
<td>.02</td>
</tr>
<tr>
<td>1994</td>
<td>40.7</td>
<td>35.8</td>
<td>4.9</td>
<td>.16</td>
</tr>
<tr>
<td>1995</td>
<td>31.9</td>
<td>22.3</td>
<td>9.6</td>
<td>.00</td>
</tr>
<tr>
<td>1996</td>
<td>36.1</td>
<td>37.2</td>
<td>-1.1</td>
<td>.58</td>
</tr>
<tr>
<td>All</td>
<td>39.4</td>
<td>32.7</td>
<td>6.7</td>
<td>.00</td>
</tr>
</tbody>
</table>

Applying a t test to evaluate the statistical significance of the differences within a gender, there is no reason to believe that there will be a larger grade differential for the two categories of men than for the two categories of women. Tables 3 and 4 report the one-tailed p-values used to compare the relative plausibility of the null and alternative hypotheses. The null hypothesis is that there is no difference in negotiation grades for graded and credit/no-credit students of the same gender. Since it is reasonable to suppose that graded students will outperform credit/no-credit students, the one-tailed alternative hypothesis reflects that predisposition. In one year (1986) and for the entire period, there was a statistically significant difference between graded and credit/no-credit men. There was a statistically significant difference between graded and credit/no-credit women in four years (1990, 1991, 1993, and 1995) and for the eleven year period as a whole. Contrary to our theory, the data suggest that graded and credit/no-credit women performed more rather than less differently than did the two categories of men.
Figure 3 summarizes the negotiation grade differentials between men and women.\textsuperscript{128}

\textbf{Figure 3}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure3}
\caption{The figure shows the negotiation grade differentials between men and women.}
\end{figure}

In Figure 3, years in which the difference in negotiation grades was greater for women than for men are shown by lines extending to the left of the "0" point. The difference was greater for the two categories of women than for the two categories of men in seven years and overall, and greater for men in four years. There is no support in these data for the theory that women are more likely to select the credit/no-credit option to avoid risk and competition rather than to obtain credit without hard work.

This section has presented statistical analyses of three hypotheses reflecting the theory that women choose to avoid the risk and competition associated with negotiation exercises. Women selected the credit/no-credit option at a higher rate than men in eight of the eleven years, but, statistically, the women's rate was significantly higher than the men's rate in only three years and overall. The men's rate was higher than the women's in three years, but the difference was never statistically significant.

We examined one possible reason for selecting the credit/no-credit option by comparing the performance of graded students to

\textsuperscript{128} The differentials in Figure 3 reflect the difference between the absolute value of the disparity for men and the absolute value of the disparity for women.
their credit/no-credit counterparts of the same gender. Our theory was that, if women are more likely than men to opt for credit/no-credit to reduce risk rather than to slack off, the grade differential between the two groups of women would be less than the differential between the two groups of men. While we found that women are more likely than men to select the credit/no-credit option, we found no evidence that they do so in order to reduce risk. In fact, the grade differentials between graded and credit/no-credit women were often greater than the differentials between graded and credit/no-credit men.

2. Performance Differences between Men and Women in Legal Negotiating Class

Flowing from hypotheses related to men’s and women’s preferences for competitive interactions are theories postulating that women will be less successful in those interactions. This section presents statistical analyses of three hypotheses related to women’s success in the Legal Negotiating classes. The first two tests consider whether women are less successful than men in producing desirable results for their “clients” on negotiation exercises. The first test compares the success of men and women who elected to take the class for a grade, while the second compares men and women who selected the credit/no-credit option. The third test considers whether men or women prepared better course papers, which reflect their relative abilities to explore the negotiation process and analyze their bargaining interactions. The first two comparisons involve one-tailed tests, because they rely on alternative hypotheses suggesting that men will outperform women. The third comparison involves a two-tailed test, because theories on men’s and women’s competitive preferences offer no reason to believe that there will be a gender disparity.

The data show no statistically significant difference in negotiation performance between graded men and women. Figure 4 demonstrates that the negotiation scores were higher for graded women than for graded men in six of eleven years and overall and were higher for men in five years.

129. See supra notes 122–23.
While Figure 4 suggests slightly superior negotiating performance by graded women, Table 5 reveals that in no year was the difference in average scores statistically significant for graded students, reflecting the fact that the differences were relatively small. Nor was the difference statistically significant with respect to the aggregate data. The difference in average negotiation scores for graded women and graded men for the entire period was only 0.2 points, which cannot be considered practically significant.
### Table 5

**Average Negotiation Scores for Graded and Credit/No-Credit Students**

<table>
<thead>
<tr>
<th>Year</th>
<th>Graded men</th>
<th>Graded women</th>
<th>Diff.</th>
<th>p-value</th>
<th>C/n-c men</th>
<th>C/n-c women</th>
<th>Diff.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>86</td>
<td>30.8</td>
<td>31.3</td>
<td>-0.5</td>
<td>.58</td>
<td>24.4</td>
<td>24.5</td>
<td>-0.1</td>
<td>.52</td>
</tr>
<tr>
<td>88</td>
<td>38.1</td>
<td>39.2</td>
<td>-1.1</td>
<td>.65</td>
<td>40.4</td>
<td>37.3</td>
<td>3.1</td>
<td>.33</td>
</tr>
<tr>
<td>89</td>
<td>42.3</td>
<td>40.5</td>
<td>1.8</td>
<td>.30</td>
<td>35.3</td>
<td>40.2</td>
<td>-4.9</td>
<td>.77</td>
</tr>
<tr>
<td>90</td>
<td>43.0</td>
<td>42.2</td>
<td>0.8</td>
<td>.40</td>
<td>37.6</td>
<td>31.5</td>
<td>6.1</td>
<td>.14</td>
</tr>
<tr>
<td>91</td>
<td>42.3</td>
<td>45.1</td>
<td>-2.8</td>
<td>.82</td>
<td>36.7</td>
<td>33.0</td>
<td>3.7</td>
<td>.26</td>
</tr>
<tr>
<td>92</td>
<td>37.3</td>
<td>38.9</td>
<td>-1.6</td>
<td>.66</td>
<td>32.2</td>
<td>35.8</td>
<td>-3.6</td>
<td>.80</td>
</tr>
<tr>
<td>92.5</td>
<td>39.9</td>
<td>42.0</td>
<td>-2.1</td>
<td>.73</td>
<td>40.6</td>
<td>37.3</td>
<td>3.4</td>
<td>.19</td>
</tr>
<tr>
<td>93</td>
<td>40.1</td>
<td>45.0</td>
<td>-4.9</td>
<td>.89</td>
<td>39.4</td>
<td>31.7</td>
<td>7.7</td>
<td>.08</td>
</tr>
<tr>
<td>94</td>
<td>42.3</td>
<td>40.7</td>
<td>1.6</td>
<td>.38</td>
<td>35.7</td>
<td>35.8</td>
<td>0.0</td>
<td>.50</td>
</tr>
<tr>
<td>95</td>
<td>32.8</td>
<td>31.9</td>
<td>1.0</td>
<td>.40</td>
<td>31.2</td>
<td>22.3</td>
<td>8.9</td>
<td>.00</td>
</tr>
<tr>
<td>96</td>
<td>36.4</td>
<td>36.1</td>
<td>0.4</td>
<td>.46</td>
<td>30.9</td>
<td>37.2</td>
<td>-6.3</td>
<td>.94</td>
</tr>
<tr>
<td>All</td>
<td>39.3</td>
<td>39.4</td>
<td>-0.2</td>
<td>.57</td>
<td>35.3</td>
<td>32.7</td>
<td>2.6</td>
<td>.04</td>
</tr>
</tbody>
</table>
For students who selected the credit/no-credit option, the results appear to be quite different. Compare Figures 4 and 5.

**Figure 5**

Men received higher average scores than women in six of eleven years and overall, while women received higher average scores in four years, including 1986 for which a wholly insignificant 0.1 difference existed. (Average scores for credit/no-credit men and women were equal in 1994.) As Table 5 indicates, however, average scores for credit/no-credit male students were significantly higher (in the statistical sense) than for women in 1995 and overall, but for no other single year. While the difference for the aggregate data is statistically significant (at the .04 level), the 2.6 point difference is relatively small. Such a differential would, of course, have no impact on the final grades of credit/no-credit students and would only be practically significant for graded students who had combined negotiation and paper scores in the upper regions of their respective grade ranges. For a majority of graded students with overall scores in the middle or lower areas of their respective grade ranges, a 2.6 differential would be irrelevant.

The aggregate negotiation score differential between male and female students who took the course on a credit/no-credit basis may provide slight support for the theory that males are less risk averse than women. In a situation in which men are guaranteed "credit" despite poor negotiating scores, male students may be more willing than their female cohorts to risk the negative consequences associated with
nonsettlements in an effort to achieve more beneficial negotiation results. This factor may account for the 2.6 point aggregate differential. On the other hand, when nonsettlements could directly affect course grades—as they would for graded participants—the absence of any statistically significant difference between male and female students would suggest that graded male students are no more willing than graded female students to risk the negative impact of nonsettlements to attain higher negotiation results.

When the negotiation scores for both graded and credit/no-credit students are combined and compared by gender, there appears to be no statistically significant difference between the negotiation performance of men and women. The average scores for women were higher than for men for six years, while the male scores exceeded the female scores for the other five years.

Table 6 shows that the average scores of men were slightly higher (1.4 points) for the period as a whole. There was a statistically significant difference between the scores of all men and all women in only one year, 1995, when the average negotiation score was 32.2 for men and 26.1 for women. Overall and for all other periods, the differences between the average negotiation scores for men and women were not statistically significant.

130. See Figure 6 and Table 6.
between the average negotiation scores for men and women were not statistically significant.

### Table 6
**Gender Differences in Performance Scores in Negotiation Exercises**

<table>
<thead>
<tr>
<th>Year</th>
<th>All Men</th>
<th>All Women</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>29.7</td>
<td>30.4</td>
<td>-0.7</td>
<td>.62</td>
</tr>
<tr>
<td>1988</td>
<td>38.7</td>
<td>38.8</td>
<td>-0.1</td>
<td>.52</td>
</tr>
<tr>
<td>1989</td>
<td>41.2</td>
<td>40.4</td>
<td>0.8</td>
<td>.39</td>
</tr>
<tr>
<td>1990</td>
<td>42.3</td>
<td>38.0</td>
<td>4.3</td>
<td>.07</td>
</tr>
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<td>1991</td>
<td>41.3</td>
<td>39.9</td>
<td>1.4</td>
<td>.31</td>
</tr>
<tr>
<td>1992</td>
<td>35.2</td>
<td>37.6</td>
<td>-2.5</td>
<td>.81</td>
</tr>
<tr>
<td>1992.5</td>
<td>40.2</td>
<td>40.3</td>
<td>-0.2</td>
<td>.53</td>
</tr>
<tr>
<td>1993</td>
<td>39.9</td>
<td>40.5</td>
<td>-0.7</td>
<td>.58</td>
</tr>
<tr>
<td>1994</td>
<td>40.8</td>
<td>37.5</td>
<td>3.3</td>
<td>.16</td>
</tr>
<tr>
<td>1995</td>
<td>32.2</td>
<td>26.1</td>
<td>6.1</td>
<td>.01</td>
</tr>
<tr>
<td>1996</td>
<td>34.5</td>
<td>36.5</td>
<td>-1.9</td>
<td>.75</td>
</tr>
<tr>
<td>All</td>
<td>38.2</td>
<td>36.8</td>
<td>1.4</td>
<td>.06</td>
</tr>
</tbody>
</table>

The lack of demonstrable difference between the performance of men and women also applies to the student performances on course papers. Without any reason to believe that one group would outperform the other, the p-values reported on Table 7 reflect a two-tailed t-test comparison of the null hypothesis that there is no difference between the genders and the alternative hypothesis that there is a difference. The data reveal no statistically significant difference between the genders for either graded or credit/no-credit students. For graded students, the average paper scores for the entire period were 31.1 points for men and 30.5 points for women. For credit/no-credit students, average paper scores were 29.5 points for men and 29.8 points for women. As Table 7 reveals, graded men outperformed women in six of the eleven years and overall, but only by small amounts. The scores achieved by graded women were slightly higher for the other five years. Credit/no-credit women outperformed men in seven of the eleven years and overall, but again by only small differentials. For no period was any difference statistically significant.

131. See supra Table A.
<table>
<thead>
<tr>
<th>Year</th>
<th>Graded men</th>
<th>Graded women</th>
<th>Diff.</th>
<th>C/n-c men</th>
<th>C/n-c women</th>
<th>Diff.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
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<td>24.0</td>
<td>25.0</td>
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<td>29.0</td>
<td>1.1</td>
<td>.21</td>
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<tr>
<td>1989</td>
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<td>30.5</td>
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<td>-5</td>
<td>.49</td>
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<tr>
<td>1990</td>
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<td>35.1</td>
<td>-0.8</td>
<td>32.5</td>
<td>32.1</td>
<td>-4</td>
<td>.75</td>
</tr>
<tr>
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<td>32.8</td>
<td>-0.2</td>
<td>32.2</td>
<td>32.8</td>
<td>-6</td>
<td>.40</td>
</tr>
<tr>
<td>1992</td>
<td>28.5</td>
<td>29.2</td>
<td>-0.7</td>
<td>27.9</td>
<td>28.2</td>
<td>-3</td>
<td>.68</td>
</tr>
<tr>
<td>1992.5</td>
<td>33.9</td>
<td>33.8</td>
<td>-0.1</td>
<td>33.5</td>
<td>33.4</td>
<td>-1</td>
<td>.35</td>
</tr>
<tr>
<td>1993</td>
<td>32.9</td>
<td>33.3</td>
<td>-0.4</td>
<td>33.1</td>
<td>33.0</td>
<td>-1</td>
<td>.94</td>
</tr>
<tr>
<td>1994</td>
<td>34.6</td>
<td>34.3</td>
<td>0.3</td>
<td>33.4</td>
<td>33.0</td>
<td>-1.8</td>
<td>.17</td>
</tr>
<tr>
<td>1995</td>
<td>25.2</td>
<td>23.4</td>
<td>1.8</td>
<td>22.1</td>
<td>22.9</td>
<td>-8</td>
<td>.55</td>
</tr>
<tr>
<td>1996</td>
<td>27.5</td>
<td>28.4</td>
<td>-0.9</td>
<td>28.4</td>
<td>25.6</td>
<td>2.8</td>
<td>.14</td>
</tr>
<tr>
<td>All</td>
<td>31.1</td>
<td>30.5</td>
<td>0.6</td>
<td>29.5</td>
<td>29.8</td>
<td>-0.3</td>
<td>.69</td>
</tr>
</tbody>
</table>
Conclusion

Both psychological theory and empirical research suggest that women have a lower preference for risk and competition than men. If this perception is correct, more women would be inclined to take a competitive legal negotiating course on a credit/no-credit basis than men. If the women taking the course on a credit/no-credit basis were more desirous of avoiding competition than of obtaining easy credit hours, the credit/no-credit women might be expected to work more diligently on both the negotiation exercises and course papers than males who may select the credit/no-credit alternative to enable them to slack off.

The Legal Negotiating course data do indicate that a greater percentage of women take the class on a credit/no-credit basis than men, lending support for the alternative hypothesis with respect to the competition avoidance issue. Nonetheless, the data do not support the theory that the difference between the performance of graded and credit/no-credit women would be less than that between graded and credit/no-credit men.

Sociological theory also suggests that males are more acculturated to overt competition during their formative years than females, providing men with an advantage when they encounter openly competitive situations as adults. If this theory were correct, male students might be expected to achieve more beneficial results on negotiation exercises than female students. Our data found no statistically significant differences between male and female performance with respect to negotiation exercise achievement.

While graded women scored slightly higher than graded men on negotiation results, credit/no-credit men marginally outperformed credit/no-credit women. Graded men outperformed graded women on the paper, but credit/no-credit women outperformed similarly situated men. The discerned differences in negotiation and paper scores for graded or credit/no-credit students were small and rarely statistically significant. In terms of the amount by which one group outperformed the other, credit/no-credit men outperformed credit/no-credit women with respect to negotiation results in one year and overall. Otherwise, there were no statistically significant differences. When the negotiation scores of both graded and credit/no-credit students were considered together, there was only one year in which the performance of women was significantly below the per-
formance of men. There was no period in which the performance of men and of women on the course paper was significantly different for either graded or credit/no-credit students.

Read together, our findings suggest that while women and men may not perform identically in negotiation settings, there is no factual basis for assuming that women are weaker or less capable negotiators. Our results directly challenge beliefs about women suggesting that female negotiators are likely to perform less proficiently than their male peers. These stereotypical perceptions have undoubtedly disadvantaged women in numerous academic and professional settings, including those seeking entry level associate positions and female associates seeking entrance to firm partnerships. We hope that legal professionals who hold gender-based beliefs such as those we have discussed will reevaluate their expectations in a manner that will diminish—if not entirely eliminate—subtle biases against women attorneys.
APPENDIX

The following are the materials described in Part I, used in one of the negotiating exercises in Professor Craver’s Legal Negotiating class. The materials are the General Information provided to all the students and the Confidential Information provided to each side. Following the student material are the scoring guidelines for grading the results of the students’ negotiations.

This particular exercise is a negotiation between the lawyers for the Plaintiff, Jane Doe (Pl.) and the Defendant, Professer Palsgraf (Def.) to attempt to settle a sexual harassment suit. Each side’s information contains information on how particular outcomes for specific elements of the case will effect their score.

1. GENERAL INFORMATION—SEXUAL HARASSMENT EXERCISE

Last year, Jane Doe was a first-year law student at the Yalebridge Law school, which is part of Yalebridge University, a private, nonsectarian institution. Ms. Doe was a student in Professor Alexander Palsgraf’s Tort Law class.

During the first semester, Professor Palsgraf made sexually suggestive comments to Ms. Doe on several occasions. These comments were always made outside of the classroom and when no other individuals were present. Ms. Doe unequivocally indicated her personal revulsion toward Professor Palsgraf’s remarks and informed him that they were entirely improper and unappreciated.

During the latter part of the second semester, Professor Palsgraf suggested to Ms. Doe in his private office that she have sexual relations with him. Ms. Doe immediately rejected his suggestion and told Professor Palsgraf that he was “a degenerate and disgusting old man who was a disgrace to the teaching profession.”

Last June, Ms. Doe received her first-year law grades. She received one “A,” two “A-,” one “B+,” and one “D,” the latter grade pertaining to her Tort Law class. She immediately went to see Professor Palsgraf to ask him about her low grade. He said that he was sorry about her “D,” but indicated that the result might well have been different had she only acquiesced in his request for sexual favors.
Ms. Doe then had Professor Irving Prosser, who also teaches Tort Law at Yalebridge, review her exam. He said that it was a “most respectable paper” which should certainly have earned her an “A-” or “B+,” or possibly even an “A.”

Ms. Doe has sued Professor Palsgraf in state court for $250,000 based upon three separate causes of action: (1) sexual harassment in violation of Title IX of the Education Amendments of 1972; (2) intentional infliction of emotional distress; and (3) fraud. Professor Palsgraf has a net worth of $450,000, including the equity in his $350,000 house and a $50,000 library of ancient Gilbert’s outlines.

2. CONFIDENTIAL INFORMATION—JANE DOE

Your client wants to obtain several forms of relief from Professor Palsgraf: (1) a grade of “A” or “A-” in Tort Law; (2) the resignation of Professor Palsgraf from the Yalebridge Law School; and (3) a sufficiently large sum of money to deter such offensive conduct by other professors in the future.

(I) Score plus 35 points if Professor Palsgraf agrees to change Ms. Doe’s Tort Law grade to “A-,” and plus 50 points if he agrees to change her grade to “A.”

(II) Score plus 200 points if Professor Palsgraf agrees to resign from the Yalebridge Law School faculty. If Professor Palsgraf does not resign, but agrees to take a one-year leave of absence or a one-year sabbatical leave from the Law School during the coming academic year (i.e., Ms. Doe’s second year), score plus 50 points. If Professor Palsgraf agrees to take a leave of absence and/or sabbatical leave during the coming year and the following year (i.e., Ms. Doe’s final two years of law school), score plus 75 points.

(III) If Professor Palsgraf does not resign, but he does agree to seek psychiatric counseling and personally apologize to Ms. Doe, score plus 50 points.
(IV) Score plus 2 points for each $1,000, or part thereof, Professor Palsgraf agrees to immediately pay Ms. Doe in settlement of her suit.

(V) Ms. Doe is concerned about the publicity surrounding this matter and the impact that publicity may have on her future employment opportunities. Score plus 50 points for a clause guaranteeing the confidentiality of any settlement reached with Professor Palsgraf.

Since Ms. Doe wishes to have this matter resolved now so that she may concentrate fully on her legal education, you will automatically be placed at the bottom of your group if no settlement is achieved.

3. CONFIDENTIAL INFORMATION—PROFESSOR PALSGRAF

Your client realizes that his conduct was entirely inappropriate, and he is deeply sorry for the difficulty he has caused Ms. Doe. He would thus be willing to submit to psychiatric counseling and to personally apologize to Ms. Doe. Should you agree to either or both of these requirements, you lose no points.

(I) Professor Palsgraf fears that Ms. Doe may ask for his resignation from the Yalebridge Law School, and he would rather lose everything before he would forfeit his Yalebridge position. Should you agree to have Professor Palsgraf resign his Yalebridge professorship, you must deduct 500 points.

(II) Your client recognizes that he will have to provide Ms. Doe with the grade she should have received. He is readily willing to change her grade to “A-,” and you lose no points for agreeing to an “A-.” Professor Palsgraf does not think that Ms. Doe’s exam performance was really worthy of an “A.” You thus lose 50 points if you agree to have Ms. Doe’s Tort Law grade changed to an “A.”
(III) Professor Palsgraf is currently eligible for a one-year, paid “Sabbatical leave.” He has been saving this leave to enable him to go to Cambridge University in two years. If you agree to have Professor Palsgraf take that “sabbatical leave” during either of the next two academic years, you lose 25 points. Should you agree to have him take a “leave of absence” during either of the next two academic years, which, unlike a “sabbatical leave,” would not involve a continuation of his salary, you lose 100 points. (If you agree to both a one-year sabbatical and a one-year leave of absence, you lose a total of 125 points.)

(IV) Professor Palsgraf will almost certainly have to provide Ms. Doe with monetary compensation for the wrong he committed. You lose 3 points for each $1,000, or part thereof, you agree to pay Ms. Doe. Any agreement regarding the payment of money must be operative immediately—no form of future compensation may be included.

(V) Professor Palsgraf is concerned about the publicity surrounding this tragic affair. Score plus 50 points for a clause guaranteeing the confidentiality of any settlement reached.

Since Professor Palsgraf believes that the continuation of this lawsuit may ruin his outstanding legal career, you will automatically be placed at the bottom of your group if no settlement is achieved.

4. SEXUAL HARASSMENT EXERCISE EFFICIENCY

(I) “A-” is More Efficient grade than “A” [Net Gain of 35 pts. for A- vs. 0 pts for A]
A- generates +35 pts. for Pl. at No Cost to Def.
A- generates +50 for Pl., but at cost of -50 to Def.
If Pl. accepts A- and saves Def. 50 pts., Def. can afford to give Pl. additional $10,000 to $15,000—costing Def. fewer than 50 pts. while generating extra 20 to 30 pts
for Pl. which, when added to +35 for A-, results in more than +50 Pl. would get for A alone.

(II) Personal Apology and Psych. Counseling generate +50 for Pl. at No Cost to Def.

By giving Pl. +50 here, Pl. could reduce Monetary Demand by $25,000 and still gain same +50—reduction of $25,000 saves Def. -75 pts. [25 x -3].

(III) Resignation generates Net Loss of 300 pts.—Pl. gets +200, but Def. loses 500 pts.

If Def. willing to lose 500 pts., Pl. should seek the $167,000 that would cost Def. -501 pts. while generating +334 for Pl.

(IV) Sabbatical Leave generates Net Gain of 25 pts.—Plus 50 for Pl. with only -25 for Def.

Leave of Absence generates Net Loss of 50—Plus 50 pts. for Pl., but -100 for Def.

(V) Confidentiality Clause generates +50 for EACH party.

[When first party requests this clause, does opponent immediately agree to it or use it as False Issue in effort to obtain additional concession for same Confidentiality Clause it also wants?]

(VI) Money is Net Loser—Each $1000 gets +2 pts. for Pl., while costing Def. -3 pts.