

Effects of Stress Inoculation Training for 1st-Year Law Students

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The effects of stress inoculation training (SIT) on the anxiety, stress, irrationality, and academic performance of 1st-year law students were examined. A 2 × 3 repeated-measures crossover design was used in which the middle assessment occasion marked when control participants began receiving SIT. Compared with those in the control phase, participants initially receiving SIT showed decrements on personal, emotional, and general stress. Additional analyses indicated that all participants who received SIT displayed lower levels of anxiety, stress, and irrationality over time. Finally, the academic ranks of participants predicted to finish in the bottom 20% of their class on the basis of LSAT scores reflected conspicuous and significant improvement. SIT has promising applicability to the high levels of stress experienced by 1st-year law students.

KEY WORDS: law students; stress; stress inoculation; law school; legal education

The legal profession is currently plagued by increasing numbers of lawyers who are dissatisfied with their careers and abandon the practice of law for seemingly less stressful career alternatives (Daicoff, 1997, 1998; Rhode, 2000). Contributing factors include anxiety, depression, relationship issues, and existential questions involving personal values and the meaning of life (Beck, Sales, & Benjamin, 1995; Schiltz, 1999). These sources of psychological and physical distress may compound throughout one's career; however, research has shown that they often begin in law

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school (Benjamin, Kaszniak, Sales, & Shanfield, 1986; Krieger, 1998; Lake, 2000). Indeed, law students consistently show higher levels of stress, depression, and anxiety as well as lower self-esteem and life satisfaction than medical students, graduate students, and nonstudents (Alfini & Van Vooren, 1995; Heins, Fahey, & Henderson, 1983). The literature attributes responsibility to several specific stressors in the law school experience: (a) the perceived competitive nature of law school, particularly in the 1st year, (b) the lack of adequate performance feedback, (c) the kind of instructional methods used, (d) value conflicts or cognitive dissonance stemming from required new ways of thinking, and (e) succumbing to myths surrounding the 1st year.

The competitive nature of law school is very different from what most students have previously experienced. Law student groups are much more task oriented and less supportive than student groups found in undergraduate colleges. Many law students believe that career options are determined by 1st-year grades, thus exacerbating their stress (Boyer & Cramton, 1974; Dubin, 1982; Kaufman, 1994; Lake, 2000). Although there is an element of truth in this belief, the *perceived* career-defining pressure of achieving superior grades from the very beginning of law school produces stress and anxiety, as well as intense feelings of inadequacy and doubt about the choice of law as a career (Iijima, 1998; Maloney, 2001).

Lack of adequate feedback compounds this pressure. Standard law school practice involves a single end-of-term examination as the primary grade determinant; students receive no direct feedback about their progress throughout the semester. Segerstrom (1996) has found the lack of feedback, especially positive feedback, as particularly stressful to students. Archer and Peters (1986) have reported this to be the primary reason that law school is viewed as less nurturing and supportive than the undergraduate experience. Lack of feedback also contributes to the reluctance of law students to approach professors with questions or to ask advice (Maloney, 2001; Shanfield & Benjamin, 1985).

Instructional methods vary among law professors; however, the majority continue to use some form of Socratic dialog (Friedland, 1996). This process involves questioning students extensively until they contradict themselves or can no longer advance their position (Maloney, 2001). It has also been described as the professor driving “the students into a corner by refuting any position they take” (Gutierrez, 1985, p. 131). The constant correcting, uncertainty, and embarrassment may produce frustration rather than enlightenment, as well as heightened vulnerability, fragility, anxiety, and depression (Garner, 2000; Kutulakis, 1992; Watson, 1968). Of course, not all law professors abuse the Socratic dialog, which can be effective in stimulating abstract, creative thinking (Areeda, 1996; Davis & Steinglass, 1997; Kerr, 1999).

Value conflicts and cognitive dissonance may arise when the 1st-year student is faced with the need to “think like a lawyer.” Such narrowness of focus can isolate one from the rest of the world (Lake, 2000; Thaler, 2000). Students learn pragmatic strategies designed to ensure victory rather than morally correct argumentation (Granfield, 1986). Materialism and new knowledge of how the law works often conflict with altruistic motives for attending law school (Benjamin et al., 1986; Carney, 1991). By the end of the 1st year, many students report a heightened sense of cynicism, which masks feelings of disappointment and anxiety; publicly they project strength, activity, and enthusiasm, but privately they feel awkward, defensive, and nervous (Krieger, 1998; Reich, 1976).

Female students face additional pressure to succeed in a male-dominated field and thus often exhibit higher levels of stress than do men (Goring, 1995; McCleary & Zucker, 1991; McIntosh, Keywell, Reifman, & Ellsworth, 1994). They experience law school differently than do men (Granfield, 1994; Homer & Schwartz, 1990). For example, Guinier, Fine, Balin, Bartow, and Stachel (1994, p. 42) noted the following: “The women students we interviewed almost universally expressed stronger and more passionate feelings of alienation and outrage than the male students . . . almost all described their first-year as a radical, painful, or repressive experience.”

Finally, many students succumb to 1st-year myths, an enduring set of irrational beliefs that corrode one’s quality of life (Lake, 2000). These include (a) I am only as good as my grades and class rank, (b) I must study all the time, (c) I must be at the top of my class to be successful, (d) I can’t have a social life in law school, and (e) I have no time for leisure or for fun. Many law students feel they have no control, and thus “after a while, just do their time” (Granfield, 1986, p. 516). Such irrational beliefs are correlated with anxiety (Day & Maltby, 2003; Rohsenow & Smith, 1982); their internalization by law students is a likely contributor to stress.

Many stress-inducing practices in law school are steeped in tradition; they have remained unchanged for generations and will probably remain constant in the near future. Nevertheless, stress does interfere with academic performance (Glesner, 1991; Hess, 1997; Iijima, 1998) suggesting the need to provide law students with preparatory information and coping skills (Hazard, 1995; Maloney, 2001; Thaler, 2000). Attention to increasing the availability of counseling services for law students dates back to the 1980s (Dickerson, 1987; St. Lawrence, McGrath, Oakley, & Sult, 1983), but outcome studies are rare. Fortunately, theoretical, clinical, and empirical advances have occurred both in the field of stress management (Leahy & Dowd, 2002) as well as in our understanding of the sources of stress experienced by law students.

Stress inoculation training (SIT) has been successfully evaluated in a wide variety of psychoeducation, prevention, and remediation programs (Meichenbaum & Deffenbacher, 1988). These include anger control (Timmons, Oehlert, Sumerall, & Timmons, 1997), pain management (Hackett & Horan, 1980; Ross & Berger, 1996), test and other performance anxieties (Saunders, Driskell, Johnston, & Salas, 1996; Schneider & Nevid, 1993), and student coping (Israelashvili, 1998). The pronounced effectiveness of SIT on occupational stress (e.g., West, Horan, & Games, 1984) is highly relevant to this study, given that the daily pressures on law students resemble what they will face in their careers.

SIT typically involves three phases (Meichenbaum, 1985, 1993). First, participants are *educated* about the sources of their stress, including, for example, its relationship to irrational thinking and possible ways to reduce it at both the physiological and the psychological level. Next, *coping skills* directed toward specific stressors are fostered. These include, for example, relaxation techniques and cognitive restructuring. (Here we tailored the coping skills to the individual stressors identified in the law school experience, i.e., competition, lack of feedback, instructional methods, value conflicts, and myths.) The final *application* phase involves exposure to real or simulated situations for practice in using the coping skills.

We expected that our SIT program would result in improvements on a battery of outcome measures reflecting anxiety, stress, irrational thinking, and the academic performance of law students. To evaluate its effects, we used a crossover design in which students were randomly assigned to either of two treatment sequences. Half received SIT after pretesting; the other half were placed on a waiting list and began treatment after those in the former sequence were posttested. We hypothesized that (a) students exposed to SIT first would exhibit less anxiety, stress, and irrational thinking at posttest than would waiting list controls on all measures, (b) improvements evidenced by students in the SIT-first sequence would endure throughout a follow-up phase, and (c) students in the waiting list control sequence would evidence similar repeated measures changes on anxiety, stress, and irrational thinking after eventually receiving treatment.

Because all participants eventually received SIT, an experimental-control comparison could not be conducted on grade point average. However, we were especially interested in monitoring potential improvements in the academic performance of those students whose Law School Admissions Test (LSAT) scores predicted them to finish in the bottom 20% of their class. Finally, although we did not raise them to the level of research hypotheses, we explored the implications of the literature suggesting that women experience law school differently than do men.

METHOD

Participants

A recruiting letter explaining the study's purpose, voluntary nature, and time commitment was sent to all 158 1st-year law students during the summer before their matriculation at a state university. Twenty-nine (17 women, 12 men) returned informed-consent documents; 22 (16 women and 6 men) began and completed treatment. Their median age was 30 years; 16 described themselves as Caucasian, 2 as Hispanic, and 1 each as Asian, African American, Native American, and Appalachian American.

Counselors

Three advanced doctoral students in counseling psychology (two men, one woman) each treated one third of the participants via small groups in both treatment sequences. Two of the counselors were attorneys as well as psychologists in training. The counselors received a detailed treatment manual, approximately 3 hr of instruction, and weekly monitoring to ensure ongoing fidelity to the treatment manual.

Study Design

A 2×3 (Treatment Sequence \times Repeated Measures) design was used. Half the participants received the experimental treatment in a pre/post/follow-up sequence. The other half experienced a waiting list phase before being treated. All were tested before and at the end of the study; the assessment occasion in the middle marked the changing of phases (i.e., a posttest for SIT in the first sequence and a pretest for SIT in the second sequence). The participants were initially blocked on gender and randomly assigned to each of the two treatment sequences. Students receiving SIT in the first sequence were further assigned to three small counseling groups led by the counselors described above (two groups of 3 and one of 5).

Measures

The State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970) yielded two outcome measures in this study, namely, State Anxiety (how one feels currently) and Trait Anxiety (how one generally feels).

Presumably, only a very powerful treatment would be able to significantly affect trait anxiety, so Trait Anxiety was analyzed separately in an exploratory fashion.

Form X-1 of the State Anxiety scale contains 20 items in 4-point Likert format, anchored by *almost never* (1) and *almost always* (20); high scores reflect greater levels of state anxiety. An internal-consistency reliability coefficient of .96 was obtained from the pretests of participants in this study. Form X-2 of the Trait Anxiety scale contains 20 items scored similarly; pretest internal consistency was .89.

The Derogatis Stress Profile (DSP; Derogatis, 1984) is derived from interactional stress theory; its 77 self-report items are rated on a 5-point scale anchored by *not at all true of me* (1) and *extremely true of me* (5). Only two domains of the DSP are relevant to the law school experience, namely, Emotional and Personal. The Emotional scale consists of 11 items, with higher scores reflecting hostility, anxiety, and depression. The Personal scale similarly consists of 11 items, with higher scores indicating the presence of multiple personality mediators associated with medical or psychological stress-related disorders (e.g., propensity for driven behavior, ability to deal with time pressure, relaxation potential, attitude posture, and role definition). Pretest internal-consistency coefficients in the present study were .85 for Emotional and .77 for Personal.

The Symptoms of Stress Inventory (General Stress; Leckie & Thompson, 1979; Thompson & Leckie, 1979) is a general and specific measure of stress consisting of 118 items rated on a 5-point scale anchored by *never* (0) and *very frequently* (4) in response to how often various physical and emotional stress-related symptoms have occurred in the previous 2 weeks. The measure yields 10 subscale scores as well as a total score; high scores indicate more pronounced symptoms. Only the total score measure of General Stress was used in this study; a pretest internal-consistency coefficient of .97 was found.

The Irrational Beliefs Test (Irrationality; Jones, 1969) measures 10 irrational beliefs on separate 5-point Likert-type subscales corresponding to the common irrational ideas described by Ellis (1962). The five subscales most closely associated with the law school experience are Demand for Approval, High Self-Expectancies, Anxious Overconcern, Helplessness, and Perfectionism. Only the total score, reflecting the sum of these scales, was used in the analyses; internal consistency was .85.

Class rank, both actual and that predicted on the basis of the LSAT (Law School Admissions Council, 2001), are routinely calculated and monitored by school administrators for all students. We were interested in noting possible improvements of those students predicted to finish in the bottom 20% of their class on 1st-semester grades.

A knowledge test was administered to determine if the participants

learned the concepts presented in the SIT sessions. Comparing SIT participants with those in the waiting list control condition would yield an independent variable manipulation check; however, differences between these conditions failed to emerge due to a ceiling problem.

Procedure

Participants met with their counselors in four weekly sessions, each lasting 90 min. The assessment occasions were scheduled for participants in each treatment sequence within a day of each other.

The SIT treatment was derived from Meichenbaum and Deffenbacher (1988) and Kiselica, Baker, Thomas, and Reedy (1994) but was modified and manualized as a result of a pilot study undertaken in the previous academic year involving undergraduate and graduate students in two separate stress management groups at a university counseling center. A qualitative questionnaire assessing the perceived effectiveness of SIT's three treatment phases and the utility of the specific coping skills was administered. The data suggested eliminating several relaxation techniques, streamlining the education phase, and shortening the application component. These revisions were incorporated in the present study.

The education phase (one session) focused on stress, stressors, anxiety, and anxiety-related symptoms. Potential sources of and reactions to stress, particularly those related to the law school experience, were fully discussed. Moreover, participants learned diaphragmatic breathing and the ABCs of Ellis's (1962) rational emotive therapy. A handout on personal experience with stress and anxiety was provided, as was an overview of the remaining sessions.

The coping skills phase occupied most of the next two sessions. Various relaxation techniques were taught and practiced in session; these techniques were specifically linked to the stress and anxiety associated with the lack of adequate feedback, the professor–student interaction, and the myths described previously. Cognitive restructuring focused on negative self-statements related to performance, competition, value conflicts, and other aspects of the law school experience not open to change. Participants received homework assignments involving practice in identifying and disputing their irrational beliefs. Time management and study skills were also taught and rehearsed in session.

The coping skills and application phases overlapped as cognitive restructuring began; that is, as each new skill was presented and mastered in session, role-plays facilitated their application to real-life experiences in law school. The final session involved review of what had transpired during

previous sessions, processing of participant experiences, and additional role-played applications of skills. Posttesting followed.

Waiting list control participants were informed that because of the large number of participants, half would receive treatment after a delay of several weeks. All assessment devices were administered to control group participants within 1 day of those receiving SIT.

RESULTS

Preliminary Analyses

Pretest equivalency for both treatment-sequence conditions was evident from insignificant univariate analyses of variance (ANOVAs) conducted on all measures. Pretest intercorrelations were calculated, showing reasonable concurrent validity. Among the three stress measures, the Personal and Emotional scales correlated .76; the General Stress correlation with the former was .67 and that with the latter was .74. All stress correlations were significant ($p < .05$). Finally, Trait Anxiety and State Anxiety correlated .66 with each other.

Reports in the literature that women experience higher stress in their 1st year of law school than do their male classmates were examined via exploratory univariate ANOVAs on all measures and testing occasions with gender as the fixed factor. No significant main effects were found on any measure at either the pretest or final assessment occasions. On the second of the three assessment points, women showed higher General Stress scores than did men, $F(1, 20) = 4.33, p = .05$; however, this lone difference was likely an artifact of family-wise error. In sum, the anxiety, stress, and irrationality experienced by the women in our study were comparable to those of the men.

Treatment Efficacy

Table 1 depicts the means and standard deviations for experimental and waiting list control participants on all measures and testing occasions. We expected that students who received SIT first would exhibit greater declines in anxiety, stress, and irrationality than would students in the waiting list control phase. Analyses focused on the first two assessment occasions revealed significant Treatment \times Repeated Measures interactions on all three stress measures—for the Personal scale, $F(1, 18) = 4.52, p = .05$; for the Emotional scale, $F(1, 18) = 5.38, p = .03$; for the General

Table 1. Means and Standard Deviations for Outcome Measure and Manipulation-Check Measure as a Function of Treatment Condition and Time of Testing

Treatment condition	STAI—State		STAI—Trait		General stress		DSP—Personal		DSP—Emotional		Irrationality	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SIT												
Pretest	45.00	13.70	44.36	12.41	112.67	57.98	66.10	15.16	39.00	10.51	142.64	16.52
Posttest 1	37.82	12.29	38.55	10.05	81.18	44.39	56.91	15.21	30.27	13.22	136.73	4.46
Follow-up	42.09	12.92	40.27	12.92	82.64	57.14	63.00	18.46	32.20	14.78	138.45	18.48
Control												
Pretest	42.56	17.78	42.67	7.19	92.62	35.47	62.27	13.14	36.64	14.11	147.44	9.15
Posttest 1	46.22	13.14	40.11	7.37	86.11	34.27	63.80	17.86	35.30	15.92	143.33	9.51
Follow-up	39.67	8.92	37.22	3.60	81.78	34.41	57.50	12.25	29.25	10.05	138.00	9.15

Note. STAI = State-Trait Anxiety Inventory; DSP = Derogatis Stress Profile; SIT = stress inoculation training.

Stress scale, $F(1, 20) = 6.06, p = .02$ —indicating that students receiving SIT first exhibited lower stress than their waiting list counterparts on the second assessment occasion. No Treatment \times Repeated Measures interactions appeared on any other measure.

In addition to the foregoing interactions, significant repeated measures effects were found on the Emotional, General Stress, and Irrationality measures, indicating a decline in stress and irrational beliefs for all participants over the course of these two assessment periods, for the Personal scale, $F(1, 18) = 10.06, p = .005$; for the General Stress scale, $F(1, 20) = 10.66, p = .01$; for the Irrationality scale, $F(1, 20) = 8.83, p = .01$. Thus, although all participants' stress levels declined, those in the SIT-first condition showed significantly greater improvement. The decrement in irrationality could not be ascribed to the SIT-first treatment sequence, however, because routine sources of internal invalidity (e.g., history or maturation) might have contributed.

We expected that benefits produced by SIT would endure throughout the follow-up period. Thus, pre-to-final changes were specifically examined via correlated t tests. A significant decline on the General Stress scale occurred, $t(10) = 2.96, p = .01$, and decreases on both anxiety measures manifested as well, for State Anxiety, $t(10) = 2.63, p = .03$; for Trait Anxiety, $t(10) = 4.40, p = .01$. Although the previously exhibited decreases on the DSP domains washed out, note that additional delayed effects emerged on State and Trait Anxiety.

We also expected that the waiting list control participants would eventually show improvements when they received the SIT treatment. Unfortunately the number of participants available for assessment in this phase of their treatment sequence was small (8 or 9), thus reducing statistical power. Only declines in Irrationality registered as significant, $t(8) = 2.44, p = .04$.

Additional repeated measures ANOVAs were conducted on a reconfigured design that collapsed the SIT-first and SIT-delayed participants into a single group of participants with pre- and posttest scores. All analyses yielded significant effects, indicating that SIT participants improved on all measures—for State Anxiety, $F(1, 19) = 9.33, p = .01$; for Trait Anxiety, $F(1, 19) = 11.75, p = .01$; for the Personal scale, $F(1, 17) = 7.88, p = .01$; for the Emotional scale, $F(1, 17) = 6.79, p = .02$; for General Stress, $F(1, 19) = 7.81, p = .01$; and for Irrationality, $F(1, 19) = 7.58, p = .01$.

Finally, 7 participants who received the SIT treatment in either sequence were predicted to finish in the bottom 20% of their class on the basis of their LSAT scores. At the semester's end, however, only 3 did so. Of the other 4, 1 finished above that level, 1 in the upper half, 1 in the upper quarter, and 1 in the upper 20%. This amount of improvement could not have occurred by chance (Fisher's exact probability = .035).

DISCUSSION

We examined the effects of SIT on the anxiety, stress, irrationality, and academic performance of 1st-year law students and noted an outcome pattern that permits promising conclusions. Our primary analyses focused on the first two assessment periods, in which SIT was set against the control condition. A significant impact on all three measures of stress was demonstrated.

Additional ANOVA and correlated *t* analyses simply took advantage of data available in the crossover portion of the design; they are interesting, albeit less convincing indicators of causality. Namely, those receiving SIT after a waiting list phase eventually declined in irrationality and manifested levels of stress comparable to those initially receiving SIT, and decrements in general stress for SIT-first participants endured throughout a follow-up period. Finally, when SIT participants from both treatment sequences are collapsed, analyses of their combined pre- and posttest scores reflect improvement on all measures of anxiety, stress, and irrationality.

Because we intended to provide SIT to all participants, we could not use grade point averages in a controlled experimental comparison. Nevertheless, the fact that more than half of those receiving SIT significantly improved their predicted class rank is a conspicuously promising piece of evidence.

We also found no gender differences; the male and female participants experienced equivalent amounts of anxiety, stress, and irrationality throughout the course of the study. The literature, of course, would suggest otherwise (Goring, 1995; McCleary & Zucker, 1991; McIntosh et al. 1994); however, the literature describes a phenomenon enduring over decades. Perhaps the stress reported by women participants in our study was atypically low, or maybe the greater numbers of women admitted to law schools in recent years have produced changes in climate and perception. Future studies focused specifically on gender differences could shed light on this issue.

Note that our promising univariate outcome pattern does not adequately handle Type I error concerns; unfortunately, a completely satisfactory way to do so does not exist. Multivariate analyses are increasingly being viewed as inappropriate for controlling experiment-wise error (Huberty & Morris, 1989); on the other hand, the alternative strategy of partitioning the alpha according to the number of measures used is an overly stringent criterion that seriously exacerbates the risk of a Type II error with sample sizes and conceptually divergent outcome criteria such as we used. In the absence of clear precedent in the methodological literature, we elected to present the obtained univariate outcome pattern and let readers make whatever alpha corrections they deem appropriate.

A final unanswered question concerns the optimal time in the semester for delivering the SIT treatment. In our study, 29 of 158 admitted 1st-year students originally volunteered for the SIT program. Of these, 7 withdrew once school began, citing that the time commitment was too much for an already heavy workload. The workload of a 1st-year law student is significant, and many students find themselves ignoring all other aspects of their lives just so they can be law students (Halpern, 1982; Maloney, 2001). Arguably, for some individuals, being treated for stress might add to their stress. One remedy would be to offer the program before the beginning of the semester; unfortunately, doing so might preclude participation by out-of-state students who face moving constraints, and it might weaken the application phase of SIT, which focuses on the transition from coping skills to real-life situations. Similarly, research has not definitively answered how the experience of stress covaries with week of the semester. Thus, SIT might be differentially effective if offered at different time periods.

Much attention has been paid of late to the issue of law student stress. It is undisputed that law students experience significantly higher anxiety and stress than students in other graduate programs (e.g., Heins, Fahey, & Leiden, 1984). Moreover, law schools do not teach students how to handle the everyday anxiety and stress that accompany the practice of law (Krieger, 1998; Maloney, 2001). Our study had the support of the law school administration and was thus easily implemented. The study has empirically demonstrated that there is an effective way for law schools to help their students mitigate the potential negative effects of stress and anxiety. If other schools incorporated the principles of SIT into their curricula, perhaps both students and graduates would experience less occupational stress as well as improved academic and professional success in their legal careers.

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