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DISCIPLINING PHYSICIANS: FACTORS THAT INFLUENCE SEVERITY OF PUNISHMENT BY A STATE BOARD

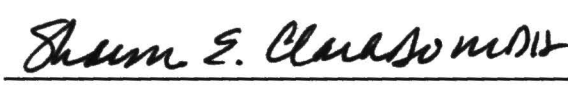
AN INVESTIGATION OF THE TEXAS STATE BOARD OF MEDICAL EXAMINERS, 1989-1998

Sharon Gustowski, B.A.

APPROVED:

Major Professor

Committee Member



Committee Member

Track Director

Dean, School of Public Health

DISCIPLINING PHYSICIANS: FACTORS THAT INFLUENCE SEVERITY OF PUNISHMENT BY A STATE BOARD AN INVESTIGATION OF THE TEXAS STATE BOARD OF MEDICAL EXAMINERS, 1989-1998

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Sharon Gustowski, BA

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INTRODUCTION

Physician conduct and competence is increasingly debated in today's health care environment, an environment that is influenced by managed care, medical malpractice, and a more informed consumer population demanding a higher quality of medical care. Revocation of physician licenses has increased, and it has been noted that physicians older than 40 years received more disciplinary actions than their younger counterparts[1]. Studies of disciplined physicians have been done in California,[2] Rhode Island,[3] Ohio[4], and New York.[5] Additional studies have also been done investigating inappropriate prescribing practices[6] and sex-related offenses committed by physicians[7]. None of these studies identified risk factors that influenced the severity of punishment given by a state board. Additionally, data concerning osteopathic physicians was scant or not included. An important issue regarding physician conduct and competence is the comparability between osteopathic (DO) and allopathic (MD) physicians. Moreover, it is also important to know which, if any, factors influence the decision for a severe punishment (such as a revocation or suspension of a license).

In Texas, both DOs and MDs are licensed to practice medicine and, when warranted, disciplined by the Texas State Board of Medical Examiners (TSBME). The TSBME is the agency authorized to license and discipline physicians and other health care professionals as mandated by the Medical Practice Act[8]. The current TSBME is composed of 9 MDs, 3 DOs, and 3 public representatives and all members are appointed by the governor for 6-year terms. Data obtained from the TSBME shows that for each year from 1989 to 1998, DOs were more likely to have been disciplined than MDs (figure 1). Whether or not this represents truly a greater risk for DOs to be disciplined by the TSBME is unknown. Therefore, it is important to know whether the same standard of care is applied to DOs and MDs and given a compromise of that standard, whether DOs and MDs are treated equally and fairly.

The purpose of this study is to determine which factors, including the type of degree a physician holds, influenced the severity of punishment given to physicians by the TSBME from 1989-1998.

METHODS

A database of violations and disciplinary actions against physicians was provided by the TSBME for the ten-year period 1989 to 1998 and represented the most complete dataset at the time of the request. The database included information on specific violations and disciplinary actions by physician license number and date the disciplinary action was taken; the database did not include those physicians who had been charged with a violation and subsequently not found guilty of the charge. The database also included demographic and professional information to include type of degree held (DO, MD), medical specialty, gender, race/ethnicity, date of birth and date of medical licensure. SPSS software, version 8 was used to conduct all statistical analyses (SPSS Inc, Chicago, IL).

The dataset provided by TSBME contained 1420 records (Figure 2). Five records were excluded due to: 1) a disciplinary action date occurring in 1999 (n = 3) and missing data on type of degree (n = 2) resulting in an eligible dataset of n = 1415. The specialties of family and general medicine were combined. Physicians appearing more than once in the database (multiple violations and disciplinary actions) resulted in a further reduction of the number of subjects and two strategies were used to create datasets for analyses that did not violate statistical independence. To examine the annual trend comparing DOs and MDs, the eligible dataset was subdivided annually and records of duplicate physicians within each year were reduced to one record per physician with results reflected in Figure 2. Since the single purpose of these reduced datasets was to examine the annual trends and not differentiate between types of violations or disciplinary actions, only the first occurring event was included; physicians with violations in more than one year remained in each of the years in which they had at least one violation. The 10-year annual trend subset resulted in a study n of 1336.

To examine the actions of TSBME, the eligible dataset was reduced to an n of 1127 by allowing a physician to appear only once in the 10-year time period. When a physician appeared more than once, the most recent disciplinary action was selected; this strategy was used so that the data would be more likely to represent the actions of the most current Board. When there was more than 1

disciplinary action on the same date, rules of selection were applied in the following order (adapted from the model used by Morrison[2]): (1) The principle cause is evident based on the violations; (2) Violations of physician conduct which are more likely to induce abnormal behaviors (substance abuse/physician misconduct); and (3) More serious charges (negligence/incompetence, inappropriate prescribing), with the potential for harm were chosen over other violations. The physicians in the reduced 10-year dataset included 154 DOs and 973 MDs.

Type of violation information was included twice in the dataset provided by TSBME. The dataset included a separate field for violations and type of violation information was also recorded with each disciplinary action (e.g., revocation for unprofessional conduct, revocation for inappropriate prescribing, etc.). Discrepancies were occasionally found when comparing the violation field and the violation reported in the disciplinary action field. For example, the violation field contained no codes for offenses of sexual misconduct, but the disciplinary action field had codes for various sexual offenses. As it is more likely that the violation in the disciplinary action field was the offense committed and thus a better representation of the basis for the disciplinary action, the disciplinary action field was used to determine type of violations. Data for specific violations were collapsed into more concise groupings (a full description of the specific actions and violations and the collapsing rules can be obtained from the author upon request).

Descriptive and inferential statistics were used to analyze these data. Descriptive statistics included means, proportions and rates; z-tests were used to compare these statistics by type of degree using a level of significance (alpha) of 0.05. Annual rates were calculated using, as the denominators, the number of DOs and MDs practicing in Texas for each of the ten years with one exception: the number of physicians practicing in 1989 was not reported by TSBME and to calculate this rate, the 1990 population figures were used. Inferential statistics included contingency table analyses using the odds ratio as the measure of association and the chi-square test for independence using a level of significance (alpha) of 0.05. To control for potential confounding, logistic regression models were used

to adjust the bivariate odds ratios. Forward selection methods were used with the logistic regression models to produce the best set of explanatory variables.

In order to run the logistic regression analyses, data transformation decisions had to be made with regard to the dependent and independent variables. The primary outcome variable of this study was disciplinary action. For logistic regression, the disciplinary action variable was transformed to two variables: 1) revocation of license vs. other actions; and 2) revocation or suspension of license vs. other actions. The type of violations and type of medical specialty variables by medical degree often resulted in empty cells or very small frequencies. To select variable categories for logistic regression analysis, those variable categories with any cell having an expected frequency less than 5, were collapsed into a single variable category "other." These reduced variable categories (all having expected frequencies greater than 5) were then dummy-coded so that, for example, nine variable categories would be represented by 8 dummy variables in the logistic regression model.

RESULTS

Descriptive Statistical Results

Of the 1127 DOs and MDs disciplined from 1989 to 1998 (ten-year dataset), the mean age and mean years of experience at the time of discipline were similar as shown in Table 1. A greater percentage of MDs disciplined were female (7.4%) compared to DOs (3.2%). Disciplined DOs were more likely to be white (90.3%) compared to MDs (75.7%).

The most common specialty of disciplined physicians was family and general medicine, accounting for 36.6% of disciplined physicians overall, with twice as many DOs than MDs. MD's were 2.5 times more likely to practice in internal medicine or Obstetrics/gynecology than DOs, 2 times more likely to practice in psychiatry, and 1.5 times more likely to practice surgery. Statistical significance tests were not carried out because of the numerous small or empty cells. (Table 2)

The most frequent violation was negligence or incompetence, accounting for 16.2% of DOs and 19.3% of MDs disciplined (Table 3). There was a disparity among physicians disciplined for inappropriate prescribing, with DOs 1.8 times as likely than MDs. However, MDs were 1.1 times as likely to have been disciplined for alcohol/drug use then DOs and 1.2 times as likely to have been disciplined for incompetence/negligence than DOs. No DOs were disciplined due to sexual misconduct. All other violations were proportionately similar among DOs and MDs. Because of the numerous small or empty cells, the data was not subjected to statistical significance testing.

Probation accounted for almost half of the total disciplinary actions taken by the TSBME from 1989 to 1998 (Table 4). Thirty MDs and one DO had the complaint dismissed by the TSBME. The remaining disciplinary actions were distributed equally between DOs and MDs.

Inferential Statistical Results

DOs compared to MDs were more likely to have their licenses revoked, revoked and/or suspended, but the results were not statistically significant (Table 5a). Females and non-whites were more likely to have their licenses revoked or suspended, and again the results were not statistically significant (table

5b). However, age and years of experience were statistically different between those with license removed (either revoked, or revoked/suspended) as shown in Table 5c. Physicians with their license removed tended to be older ($p = .001$) and have more years of experience ($p = .001$).

For the most part, the primary specialty was not a predictor for having a licensed removed, except in a few specialties. Psychiatrists were 1.58 times more likely to have their license revoked/suspended ($p = 0.04$), and 1.65 times more likely to have their license revoked ($p = 0.04$) (Table 5d). Obstetrics/gynecologists were 0.56 times less likely to have their license revoked/suspended and approached statistical significance ($p = .06$).

The type of violation was a better predictor for the type of disciplinary action the board took. Alcohol/drug use was 1.97 times more likely than other violations to result in revocation/suspension ($p < 0.001$), but 0.61 times less likely to result in a revocation ($p = 0.39$). Crimes were 5.59 times more likely to result in a revocation/suspension ($p<0.001$), and 2.90 times more likely to result in a revocation ($p = 0.001$) (Table 5e)

Table 6a and 6b reflect the full and partial logistic regression models for the dependent variables license revoked and license revoked/suspended, respectively. In both full models, the odds ratio for license removal for DOs compared to MDs was greater when controlling for other factors than when analyzed bivariately (Table 6a); the odds ratios, however, were not statistically significant. Statistically significant predictors of license revoked in the full regression model (Table 6a) included violations of crimes ($p < .001$), of disciplinary action of another state ($p < .01$) and years of experience ($p = .04$). Statistically significant predictors of license revoked/suspended in the full regression model (Table 6b) included violations alcohol/drug use ($p < .001$), inappropriate prescribing ($p = .02$), crimes ($p < .001$), and probation violation ($p < .01$).

The logistic regression analyses using forward selection resulted in two partial models, one for each dependent variable analyzed. For license revoked, the partial model included violations of crimes ($p < .001$), unprofessional conduct ($p = .01$), disciplinary actions in another state ($p < .001$) and years of

years of experience ($p < .001$) (Table 6a). The partial model explained 13.5% of the variation in the TSBME disciplinary action (compared to 14.9% in the full model). For license revoked/suspended, the partial model included violations of alcohol/drug use ($p < .001$), crimes ($p < .001$), unprofessional conduct ($p = .01$), disciplinary action in another state ($p < .001$), probation violation ($p < .001$) and age ($p < .001$). The partial model explained 14.9% of the variation in the TSBME disciplinary action (compared to 16.9% in the full model) (Table 6b). All predictor variables remaining in the partial models were statistically significant with odds ratios greater than 1 representing a greater likelihood of the specific disciplinary action for each specific violation and for increasing age or years of experience.

DISCUSSION

There are many ways that physician misconduct is brought to the attention of the TSBME. Consumers (patients), insurance companies, and hospital peer- review boards all have the ability to formally make a complaint to the TSBME against a physician. The TSBME also periodically checks physicians on malpractice claims and prescribing practices, and can launch an investigation from any of the above complaints or findings. An investigation is undertaken by an investigator hired by the TSBME who determines if the case is worthy of going before the TSBME. The TSBME then hears arguments and makes a judgement (disciplinary action) based on the act committed (violation) of the physician[9]. A limitation of this study is that it is not known in what manner physicians were reported to the TSBME. It is also not known how the TSBME exactly chooses which complaints are followed up with an investigation and judgement.

Actions of the TSBME do not include physicians who are self-placed in impaired physician programs which exempt the physician from board action upon successful treatment. Programs exist both for DOs and MDs (through either the Texas Osteopathic Medical Association or Texas Medical Association), so this study lacks true numbers of physicians who are practicing outside the laws of the Medical Practice Act.

This study found that from 1989 to 1998, the TSMBE disciplined, proportionate to their populations, three times more DOs than MDs. The finding is potentially alarming and warrants further study to determine specific reasons for this difference. It is reassuring, however, that type of degree does not appear to influence the severity of punishment in Texas once a physician has been found guilty of a charge and that the punishment is based primarily on the nature and severity of the crime.

It is important to note that the average percentage of physicians, both DOs (0.8%) and MDs (0.3%), that are disciplined by the TSBME annually is very small with respect to the total number of practicing physicians. These data and findings do not, and should not, be interpreted that the quality of care differs between those DOs and MDs who are not disciplined by TSBME (> 99% of those

practicing). Further studies exploring the cause for the disproportionate number of disciplined DOs compared to MDs are necessary to determine if corrective strategies are required.

It was the intent of this study to determine if the TSBME exercises fair punishment against DOs and MDs who have violated the Medical Practice Act of Texas (and other laws which regulate the practice of medicine). Overwhelmingly, statistical analysis points to the fact that the type of degree a physician has does not influence the severity of punishment (revocation, revocation or suspension) a physician receives.

It was also the purpose of this study to determine which factors influence the severity of punishment given by the TSBME. Models were developed by logistic regression analysis to predict the likelihood of 1) removal (suspension or revocation), and 2) revocation of the license of a physician who has committed a violation. The likelihood that a physician will have his/her license revoked by the TSBME is primarily dependent on the type of violation committed and the years of experience of the physician. Similarly, the likelihood that a physician will have his/her license revoked or suspended is primarily dependent on the age of the physician at the time of the disciplinary action. Years of experience and age were found to be highly correlated, with a Pearson correlation coefficient of 0.95 ($p<0.001$).

Figure 3 is the graphical representation of the probability that a physician who is convicted of either crimes, disciplinary action in another state, unprofessional conduct, or other violations, will have his/her license revoked by the TSBME based upon the years of experience of the physician. For example, if a physician with 15 years of experience and found guilty of the violation of committing a crime, he/she has a 25% chance of having his/her license revoked, compared with 36% of a similar physician with 30 years of experience. Figure 4 demonstrates the probability that a physician who has been convicted of a crime, probation violation, alcohol/drug use, disciplinary action in another state, unprofessional conduct, or other violations will have his/her license removed (revoked or suspended) depending on the physician's age. The older the physician, the more likely that his/her license will be

removed. Similar estimations can be performed for other types of violations and age or years of experience using these figures.

It is not known how age and years of experience are specifically viewed by the TSBME. Dr. David E Garza, a member of the TSBME, claims that "state boards...frown on: repeat offenders, physicians who do not keep up with continuing medical education, physicians who are older who have not kept up with current medical developments[10]." Certainly his insights give some possible explanation as to the reason why older and more experienced physicians have an increased risk of receiving a more severe punishment.

It was also found that the type of violation also influences the TSBME's decision to hand down a more severe punishment. Physicians found guilty of alcohol/drug use and crimes were both more likely to be punished with a license revocation or suspension. Certainly physicians who are misusing alcohol or drugs pose a danger to the welfare of their patients, and those committing crimes pose a danger to the public. Thus the TSBME actions are not unexpected, and it is reassuring to the public that the TSBME shows little tolerance to physicians involved in such activities. Whether a young or newly practicing physician who commits these types of violations will definitely receive a severe punishment is unknown, although this study suggests that it is less likely.

In any case, because age and years of experience are predictors for severe punishment by the TSBME, measures should be taken to ensure that the aging and more experienced physician is practicing the highest quality of medicine. Physicians in Texas are currently required for yearly renewal of their license to obtain 24 hours of continuing medical education (CME), with one hour being in ethics or professional responsibility. This requirement was implemented in 1999, and the effects of this are unknown. Whether more CME or other training will be beneficial in reducing the number of disciplined physicians is unknown.

Physicians ought to be aware of factors that could ultimately result in their inability to practice medicine in Texas. A strong sense of ethics and professionalism are equally important aspects of a physicians' ability to care for patients as is his/her medical knowledge.

Figure 1. Physicians Disciplined by the TSBME, 1989-1998 by Degree Held

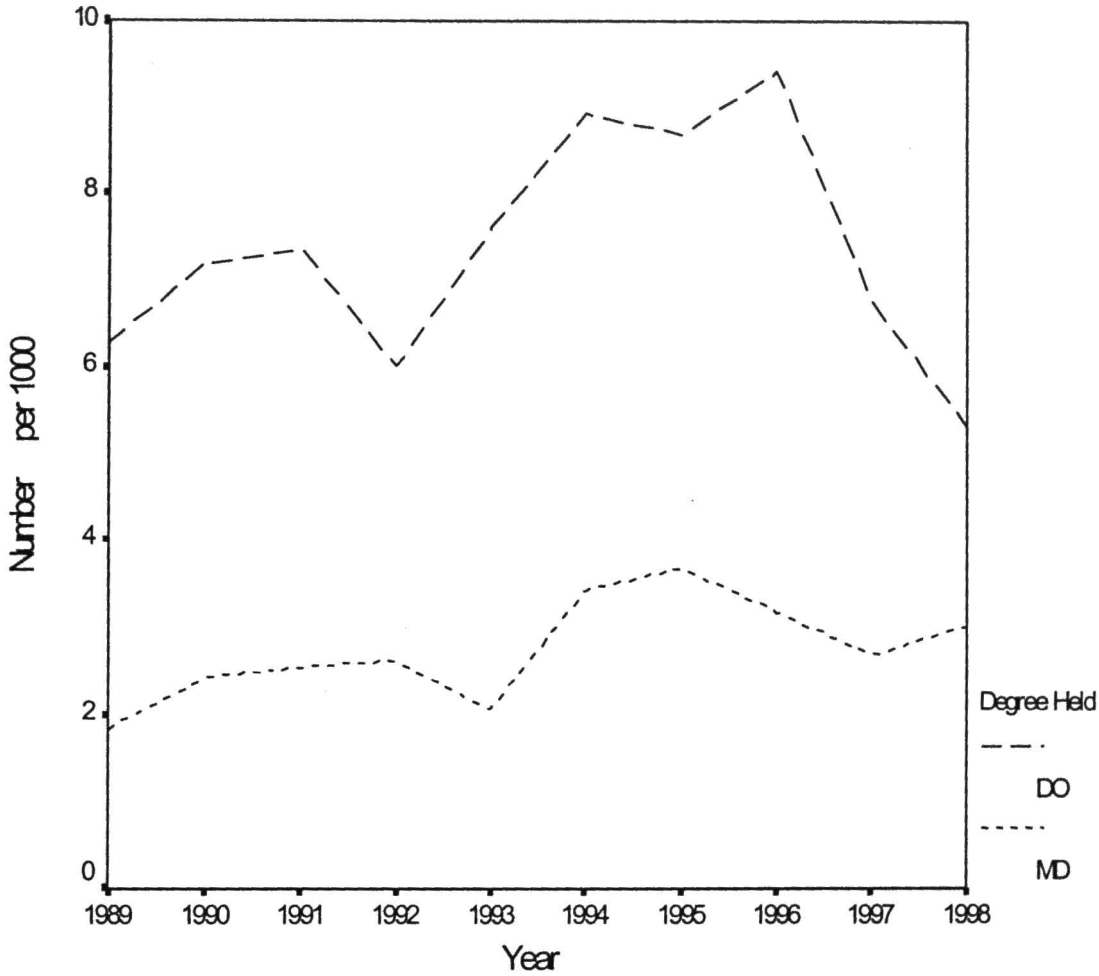


Figure 2. Case Selection Criteria

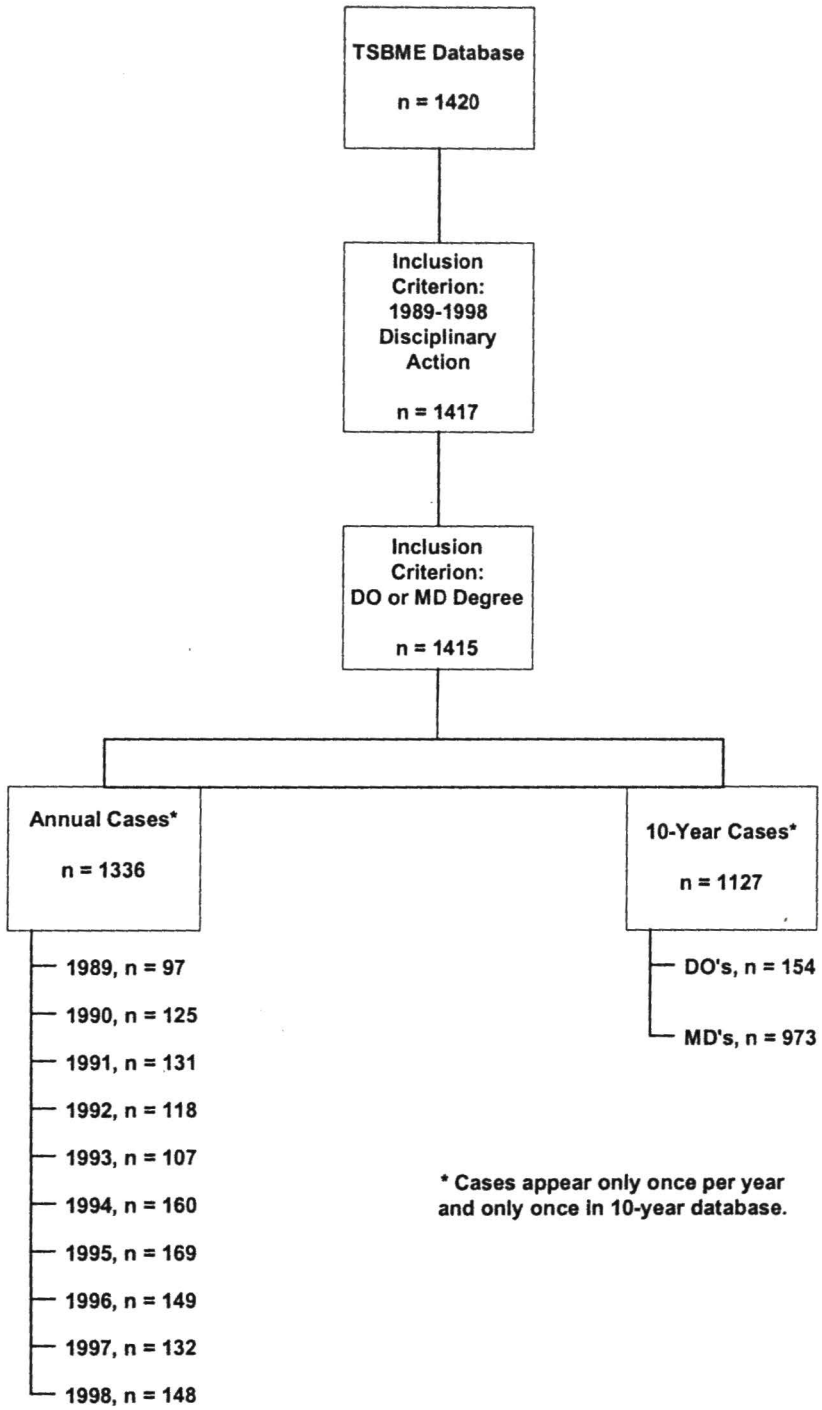


Table 1. Characteristics of Physicians Disciplined by the TSBME, 1989-1998

Characteristic	DO	MD
Sample size	154	973
Mean age	53.1	52.4
Mean years of experience	23.5	25.1
% Female	3.2	7.4
% White	90.3	75.7

Table 2. Primary Specialty of Physicians Disciplined by TSBME, by Degree Held, 1989-1998

Specialty	% DO	% MD
Family and General Medicine	65.6	32.0
Internal Medicine	7.1	17.6
Surgery	7.8	12.2
Psychiatry	4.5	9.6
Obstetrics/Gynecology	2.6	6.9
Anesthesiology	0.6	5.0
Pediatrics	0.6	4.3
Emergency Medicine	3.9	3.6
Radiology	0.6	2.3
Ophthalmology	-	2.1
Pathology	-	1.8
Physical Medicine	0.6	0.7
Public Health/Preventive Medicine	0.6	0.7
Other	0.6	0.6
Unspecified	4.5	0.6

Table 3. Violations leading to TSMBE Action, by Degree Held, 1989-1998

Type of Violation	% DO	%MD
Inappropriate prescribing	24.7	13.4
Incompetence	16.2	19.7
Alcohol/drug use	15.6	17.0
Unprofessional conduct	14.9	15.4
Disciplinary action in another state	13.0	12.0
Fraud	5.8	3.3
Probation violation	3.9	5.0
Crimes	3.2	4.1
Mental disorder	0.6	1.0
Sexual misconduct	-	0.4
Unspecified/miscellaneous	1.9	8.6

Table 4. Physicians Reported as Disciplined by TSBME, by Degree Held, 1989-1998

Type of Discipline	% DO	% MD
Probation	49.4	46.7
Revocation	18.2	16.5
Administrative penalty/misc.	11.7	10.0
Suspension	10.4	11.3
Reprimand/admonishment	9.7	12.4
Complaint dismissed	0.6	3.1

Table 5a. Likelihood of Having License Removed by Physician Degree

Degree:	Revocation		Revocation/Suspension	
Comparison	Odds Ratio	p-Value	Odds Ratio	p-Value
	95% CI		95% CI	
Degree:	1.12	0.61	1.04	0.85
DO vs MD	0.72, 1.75		0.71, 1.51	

Table 5b. Likelihood of Having License Removed by Physician Characteristic

Characteristic:	Revocation		Revocation/Suspension	
Comparison	Odds Ratio	p-Value	Odds Ratio	p-Value
	95% CI		95% CI	
Gender:	0.56	0.12	1.11	0.70
Female vs Male	0.26, 1.18		0.67, 1.84	
Ethnicity:	1.21	0.33	1.27	0.14
White vs Other	0.82, 1.79		0.92, 1.76	

Table 5c. Age and Years of Experience by Type of License Removal

Group	Revocation			Revocation/Suspension		
	Yes	No	p-Value	Yes	No	p-Value
Mean age	58.0	51.4	<0.001	54.5	51.8	<0.001
Mean years of experience	30.1	23.7	<0.001	26.8	24.2	<0.001

Table 5d. Likelihood of Having License Removed by Physician Specialty

Specialty	Revocation		Revocation/Suspension	
Vs Other Specialties	Odds Ratio	p-Value	Odds Ratio	p-Value
	95% CI		95% CI	
Family / general medicine	0.94	0.73	0.96	0.77
	0.68, 1.31		0.73, 1.26	
Internal medicine	0.72	0.16	0.71	0.08
	0.45, 1.14		0.49, 1.04	
Surgery	1.34	0.21	1.35	0.13
	0.85, 2.11		0.92, 2.00	
Anesthesiology	1.25	0.53	1.11	0.74
	0.62, 2.55		0.60, 2.06	
Psychiatry	1.65	0.04	1.58	0.04
	1.01, 2.69		1.03, 2.43	
Emergency medicine	0.68	0.42	0.94	0.87
	0.26, 1.76		0.47, 1.91	
OB/Gyn	0.71	0.34	0.56	0.06
	0.34, 1.45		0.30, 1.04	
Pediatrics	0.80	0.61	0.67	0.30
	0.33, 1.92		0.32, 1.42	
Other Specialties	1.06	0.84	1.30	0.25
	0.61, 1.83		0.83, 2.03	

Table 5e. Likelihood of Having License Removed by Type of Violation

Violation	Revocation/Suspension		Revocation	
Vs Other Violations	Odds Ratio	p-Value	Odds Ratio	p-Value
	95% CI		95% CI	
Alcohol/drug use	1.97	< 0.001	0.61	0.039
	1.42, 2.72		0.38, 0.98	
Incompetence	0.43	< 0.001	0.79	0.28
	0.93, 0.64		.52, 1.20	
Inappropriate prescribing	0.40	< 0.001	0.67	0.11
	0.26, 0.63		0.41, 1.09	
Crimes	5.59	< 0.001	2.90	0.001
	2.97, 10.48		1.54, 5.45	
Fraud	0.27	0.008	0.53	0.22
	0.10, 0.76		0.18, 1.50	
Unprofessional conduct	0.86	0.42	1.15	0.51
	0.59, 1.24		0.76, 1.75	
Disciplinary action in another	1.57	0.017	2.64	< 0.001
state	1.08, 2.29		1.77, 3.95	
Probation violation	2.62	< 0.001	0.84	0.65
	1.52, 4.53		0.39, 1.80	
Other	0.64	0.16	0.78	0.30
	0.34, 1.19		0.48, 1.25	

Table 6a. Logistic Regression Models with Dependent Variable: Revocation vs. Other Disciplinary Actions

Mode	Variable	β	SE	OR	95% CI	p-Value
1	Full Model: $r^2 = 0.149$					
	Degree – DO	-0.30	0.26	1.35	0.82, 2.23	0.24
	Gender – Female	-0.19	0.41	0.83	0.37, 1.85	0.65
	Ethnicity - White	-0.03	0.22	0.97	0.63, 1.49	0.89
	Specialty:					
	Family/general medicine	0.03	0.32	1.03	0.55, 1.94	0.92
	Internal medicine	-0.07	0.37	0.93	0.45, 1.91	0.85
	Surgery	0.17	0.37	1.19	0.58, 2.43	0.64
	Anesthesiology	0.64	0.48	1.89	0.74, 4.80	0.18
	Psychiatry	0.50	0.38	1.65	0.78, 3.46	0.19
	Emergency medicine	0.11	0.57	1.12	0.37, 3.42	0.84
	OB/Gyn	-0.18	0.47	0.83	0.33, 2.08	0.69
	Pediatrics	0.02	0.55	1.02	0.35, 2.99	0.97
	Violation:					
	Alcohol/drug use	0.33	0.40	1.39	0.63, 3.05	0.41
	Incompetence	0.27	0.38	1.31	0.63, 2.75	0.47
	Inappropriate prescribing	-0.14	0.40	0.87	0.39, 1.93	0.73
	Crimes	1.58	0.46	4.86	1.98, 11.92	< 0.001
	Fraud	-0.19	0.63	0.82	0.24, 2.83	0.76
	Unprofessional conduct	0.67	0.38	1.96	0.92, 4.14	0.08
	Disciplinary action other state	1.32	0.38	3.76	1.80, 7.88	< 0.001
	Probation violation	0.33	0.51	1.39	0.51, 3.80	0.52

Table 6a, continued

	Age	0.01	0.02	-	-	0.80
	Years of experience	0.05	0.02	-	-	0.04
	Constant	-3.93	0.90	-	-	< 0.001
2	Partial Model: $r^2 = 0.135$					
	Violation:					
	Crimes	1.47	0.34	4.36	2.24, 8.51	< 0.001
	Unprofessional conduct	0.57	0.23	1.77	1.12, 2.78	0.01
	Disciplinary action other state	1.22	0.22	3.37	2.18, 5.21	< 0.001
	Years of experience	-0.05	0.01	-	-	< 0.001
	Constant	-3.41	0.25	-	-	< 0.001

Table 6b. Logistic Regression Models with Dependent Variable: Revocation/Suspension vs. Other Disciplinary Actions

Model	Variable	β	SE	OR	95% CI	p-Value
1	Full model, $r^2 = 0.169$					
	Degree – DO	0.17	0.22	1.19	0.78, 1.82	0.42
	Gender – Female	0.36	0.29	1.43	0.81, 2.51	0.21
	Ethnicity - White	0.08	0.18	1.08	0.76, 1.55	0.66
	Specialty:					
	Family/general medicine	-0.10	0.26	0.91	0.54, 1.53	0.72
	Internal medicine	-0.28	0.30	0.75	0.42, 1.36	0.35
	Surgery	0.27	0.31	1.31	0.72, 2.39	0.38
	Anesthesiology	-0.12	0.40	0.88	0.40, 1.95	0.76
	Psychiatry	0.21	0.32	1.23	0.66, 2.31	0.52
	Emergency medicine	-0.17	0.44	0.84	0.36, 2.00	0.70
	OB/Gyn	-0.56	0.40	0.57	0.26, 1.24	0.16
	Pediatrics	-0.40	0.46	0.67	0.27, 1.67	0.39
	Violation:					
	Alcohol/drug use	0.98	0.29	2.66	1.51, 4.70	< 0.001
	Incompetence	-0.50	0.30	0.61	0.33, 1.11	0.10
	Inappropriate prescribing	-0.75	0.33	0.47	0.25, 0.91	0.02
	Crimes	1.93	0.40	6.90	3.12, 15.22	<0.001
	Fraud	-1.12	0.58	0.33	0.10, 1.03	0.06
	Unprofessional conduct	0.12	0.30	1.12	0.62, 2.03	0.70
	Disciplinary action other	0.59	0.30	1.81	1.00, 3.28	0.05

Table 6b, continued

	state					
	Probation violation	1.18	0.37	3.25	1.58, 6.70	< 0.01
	Age	0.03	0.02	-	-	0.19
	Years of experience	0.01	0.02	-	-	0.78
	Constant	-2.84	0.72	-	-	< 0.001
2	Partial Model: $r^2 = 0.149$					
	Violation:					
	Alcohol/drug use	1.48	0.20	4.4	2.98, 6.54	< 0.001
	Crimes	2.44	0.34	1.53	5.89, 22.59	< 0.001
	Unprofessional conduct	0.66	0.21	1.94	1.27, 2.95	0.01
	Disciplinary action other state	1.14	0.22	3.13	2.05, 4.79	< 0.001
	Probation violation	1.69	0.30	5.41	3.00, 9.76	< 0.001
	Age	0.03	0.01	-	-	< 0.001
	Constant	-3.44	0.38	-	-	< 0.001

Figure 3. Probability of License Revocation

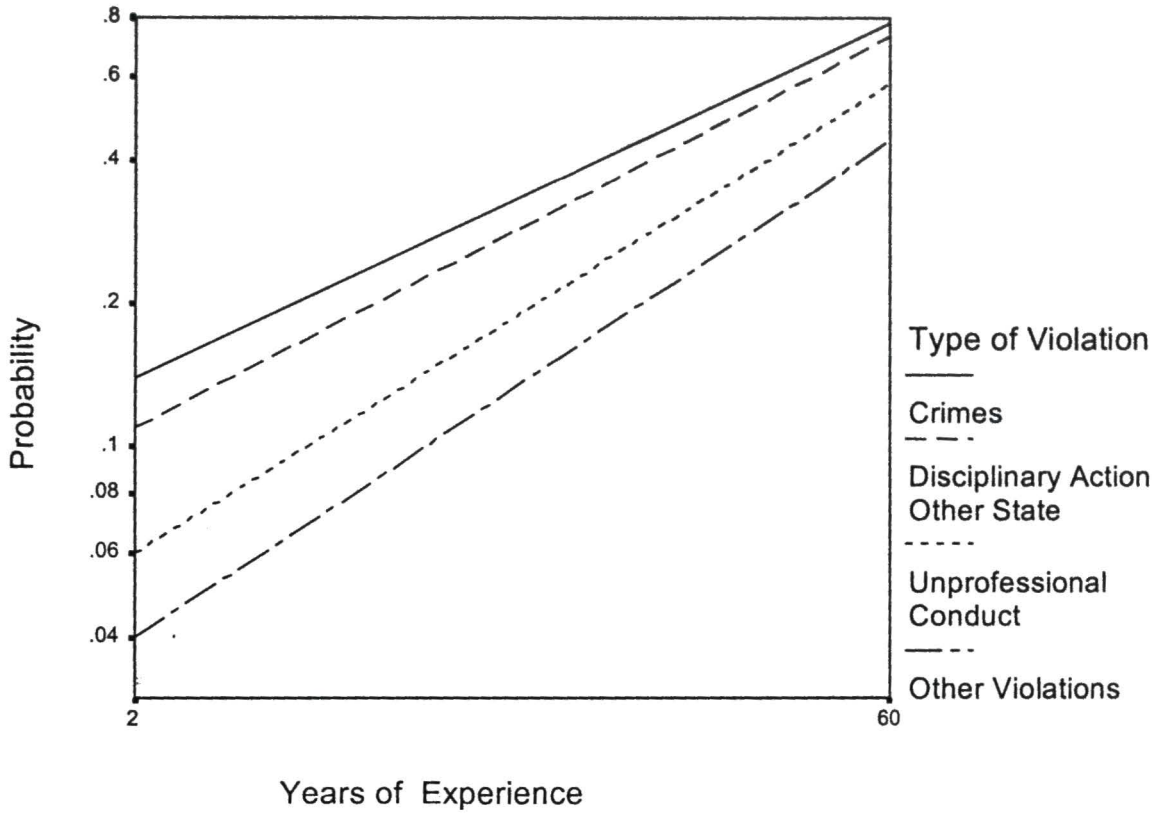
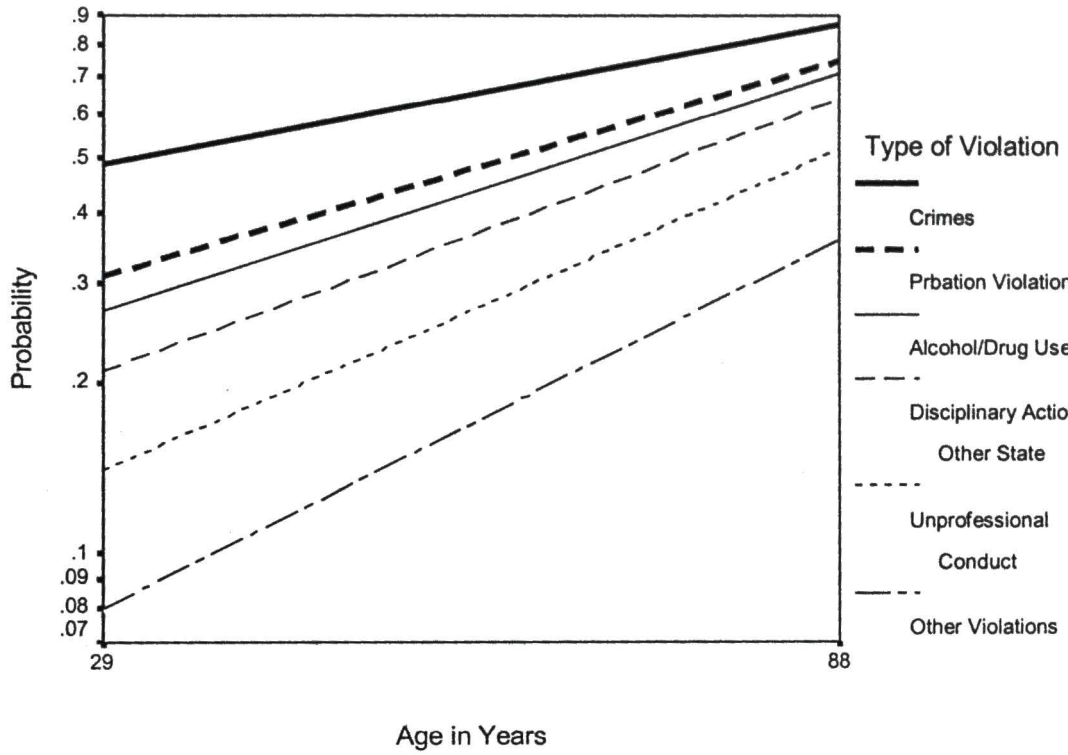


Figure 4. Probability of License Revocation or Suspension



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