Burnout and Engagement's Relationship to Drug Abuse in Lawyers and Law Professionals

Uchenna C. Ogbonnaya, PhD-c, Matthew S. Thiese, PhD, MSPH, and Joseph Allen, PhD

Objective: Investigate the associations between drug abuse and the prevalence of the engagement and burnout dichotomy in law professionals. **Methods:** Eligible participants completed a questionnaire where odds ratios of drug abuse and other confounding variables and their association to engagement or burnout were calculated using multiple logistic regression. **Results:** When looking at all law professionals, burnout is a statistically significant predictor for drug abuse ($P = 0.04$, not shown). Law professionals whose burnout scores fell in the highest bin have 4.71 (95% CI [1.38–16.08]) times higher odds of having a problem with drug abuse than those whose burnout scores fell in the second bin. **Conclusion:** Study findings showed a possible way to affect the prevalence of drug abuse in law professionals by affecting the engagement and burnout dichotomy.

Keywords: drug abuse, burnout, engagement, law professional, lawyer, well-being

Lawyers and other law professionals play a vital role in the function of our society. These law professionals are leaders in business, government, and community who often guide decision-making and shape policy at many levels. Despite the level of influence that lawyers and other law professionals have, they reportedly have a range of psychological stressors and remain an understudied population in today's biomedical literature.[1] The sparse published literature has focused primarily on the prevalence of depression, alcohol misuse, or drug abuse in this population. There has not been any research literature on burnout or engagement within this population and its association with drug abuse.

Legal professionals have stated that they face many mental stressors such as long work hours, high workloads, and challenging cases. Those mental stressors may be associated with poor mental outcomes like anxiety or depression, burnout, or drug abuse.[1–3] Other professional groups, dentists, pharmacists, and doctors, experience similar psychological stressors; however, few scientific assessments of law professionals' psychological stressors and mental well-being.[1] For example, one article by Krill et al showed the prevalence of depression symptoms, anxiety, and stress.[1,3] There is precious little research on lawyers, but that research indicates that stress is positively associated with the psychosocial factor of burnout and negatively associated with the psychosocial factor of engagement.[4,5] Up-to-date, we have identified only nine peer-reviewed publications looking into lawyer well-being.[1,3,6–12] However, only one article mentions burnout or engagement, while none mention drug abuse in the law profession.[9] The national lawyer study showed that lawyers have a high prevalence in various adverse psychosocial outcomes, such as depression (28%), anxiety (19%), problem alcohol usage (24–35%), drug abuse (11%), and burnout (14%).[1,13] Also, according to the literature, both burnout and engagement are related to employee well-being and organizational performance.[14,15]

According to Schaufeli et al,[16] burnout is defined as having three elements: overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment, while engagement has three elements of dedication, vigor, and absorption.[14] Burnout is characterized as having a "low level of energy combined with poor identification with one's work."[14,15,17,18] Engagement is characterized as having "a high level of energy and strong identification with one's work."[14,15,17,18] Although related, both engagement and burnout can exist simultaneously.[19] For example, a lawyer can be thoroughly engaged in their work on a new case while feeling burned out by the long hours and persistent time away from family. These feelings and their behavioral indicators are overlapping but still distinct.

This study, alongside a few other recent studies, has generated additional interest in lawyer well-being. However, there is still sparse amounts of data to the base decision regarding risk factors for lawyers and law professionals and potential interventions that can potentially mitigate negative well-being or increase well-being.[1] The current study investigates the relationship between psychosocial factors of burnout, work engagement, and drug abuse in lawyers and law professionals. Moreover, we hypothesized that increasing engagement has a stronger relationship with drug use than decreasing burnout, specifically for lawyers.

METHODS

This study was approved by the University of Utah Institutional Review Board (IRB 00120539) before data collection. Online informed consent was obtained before enrollment in the study. Study participants include judges, lawyers, paralegals, and other support staff in the western United States. Participants were invited to complete a questionnaire electronically using the REDCap system, over the phone, or by a mailed paper copy. All but three participants chose to complete the survey online. All participants were assigned a random identification number to help protect their identity. Prior publications have additional study methodology details, and only details relevant to this manuscript are presented below.[1]

Lawyer and Other Law Professional Data

Three recruitment methods were used for this study to maximize participation and minimize selection bias. The first recruitment method was to randomly select lawyers from the current membership profiles of active attorneys in the participating state Bar. The random selection was stratified by urban versus rural. Random numbers were generated for each stratified list of active attorneys. Two hundred were then randomly selected from each list and were invited by email to participate. After the initial email, several auto-responses for non-deliverable emails or that the attorney no longer worked at that firm were received.

From the Rocky Mountain Center for Occupational and Environmental Health (RMCOEH), University of Utah and Weber State University, Salt Lake City, Utah (Dr Ogbonnaya, Dr Thiese, and Dr Allen); Department of Family and Preventive Medicine, University of Utah, Salt Lake City, Utah (Dr Ogbonnaya, Dr Thiese, and Dr Allen).

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Address correspondence to: Matthew S. Thiese, PhD, MSPH, Rocky Mountain Center for Occupational and Environmental Health, 250 E 200 S Suite 100 Salt Lake City, UT 84111 (Matt.Thiese@hsc.Utah.edu).

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The auto-responses resulted in the removal of 54 of the randomly selected participants. Up to three follow-up emails to the remaining 356 randomly selected participants were sent to those who had not responded.

The second recruitment method was a convenience sample collected using advertisements in the bimonthly Bar Journal and at the spring and summer Bar conventions. Advertisements included having a small ad in the journal for 2 months. These ads described the study and directed them to a website to participate anonymously.

Advertisement at the conferences included signage directing lawyers to the same website and a team of four research assistants with portable devices inviting attendees to participate. Attendance at the conferences was generally high as that is a primary way practicing lawyers obtain continuing education credits to maintain licensure.

The third recruitment method included the invitation sent to entire firms' employees, inviting all employees to participate. Specific firms were not individually selected to be invited to participate; any firm could do so. Options for firms to participate were communicated at Bar conventions and in presentations about the thrust of the study. Therefore, firms self-selected to participate and are a convenience sample of all firms in Utah. Fourteen firms chose to participate and provided email addresses of their employees, which included both attorneys and support staff. These were cross-checked with the randomly selected participants to ensure no double counting. Then, Email invitations to participate were sent directly to each employee; an email was provided. All email invitations stressed that participation was voluntary and any data that participants provided would not be shared with their employer or the participating state Bar except in aggregate. The invitation asked that participants be as honest as possible and that their firm would only be provided results in aggregate.

Questionnaire

After consent, participants completed the questionnaire. The questionnaire consisted of 59 questions assessing demographics, work environment, depression, anxiety, work engagement, burnout, satisfaction with life, drug abuse, problem drinking, chronic pain, prior medical diagnoses, physical activity, and behaviors. This hypothesis evaluated the relationships between work engagement, burnout, and substance use disorder. In order to maximize participation, the questionnaire was created to be as brief and efficient as possible while still collecting data on a range of well-being and health concerns.

Work Engagement

This study utilized the ultra-short Utrecht Work Engagement Scale (UWES3), a subset of questions fromtheUWES9, and a subset of the complete UWES17 survey.[18,20,21] This survey has been used in previous studies and represents the larger work engagement scale and other measures of work engagement.[22–24] A subset of questions from the Utrecht work engagement scale (UWES) was used to evaluate and measure work engagement in this population. The three questions were used to score engagement were as follows: (1) "At my work, I feel bursting with energy," (2) "I am enthusiastic about my job", and (3) "I am immersed in my work." The ordered response choices are based on how often the participants agreed with this statement. The responses ranged from (1), never to (7), every day, summed up into a final score. The overall score for work engagement could range from 0 to 24.

Burnout

This study utilizes two Maslach Burnout Inventory (MBI) elements to evaluate and measure burnout.[16] The MBI is a commonly used burnout inventory to assess burnout in a wide range of settings.[16] The MBI survey is made up of three dimensions, emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA).[16] In this study, one element from EE and DP each was used to score burnout. The two elements were as follows: (1) "I feel burned out from my work." And (2) "I have become more callous toward people since I took this job." Other questions from the MBI were not used for brevity. The ordered response choice is based on how often the statement describes how you feel about your work. The responses ranged from (1) never to (7) every day. The Overall score for burnout could range from 0 to 14.

Drug Abuse

This study utilized the Drug Abuse Screen Test (DAST10). The DAST10 is a 10 item self-reported survey condensed from a more extensive 28-item survey that assesses patients' drug use.[25] For this study, three questions were used to assess drug abuse in this population; (1) Have you used drugs other than those required for medical reasons? (2) Do you ever feel bad or guilty about your drug use? (3) Does your spouse (or parents) ever complain about your involvement with drugs? All three questions were weighted evenly—the overall DAST10 score ranged from 0 to 3.

Potential Confounders

An a priori list of known confounders of age, sex, and body mass index (BMI) were included in the adjustment model. Additional variables were considered as potential confounders. These variables were physical activity (number of days, between 0 and 7 days, that you were physically active for a total of at least 60 minutes per day), Law practice setting, work location (Urban, suburban, or rural), average working hours a week, marital status (married, single, divorced, or other) and patient health questionnaire 9 (PHQ9) composite score which is a measure of depression.

Statistical Analysis

All data were analyzed using SAS 9.4 (SAS Institute, Cary, NC). Mean and standard deviations were calculated for continuous data. Frequency and percentage were calculated for categorical data. Assessment or normality was performed on all continuous data used, and if normality was not met, non-parametric tests were used to compare continuous variables. Equivalency of age, BMI, and PHQ-9 were assessed using three pairwise TOST tests assuming unequal variances (Satterthwaite) to compare randomly selected participants, self-selected participants, and participants from firms for each of the three variables. Logistic regression models were used to calculate crude and adjusted odds ratios (ORs) for relationships between engagement or burnout responses and drug abuse screening tool (DAST10) in the population of lawyers and law professionals. Potential confounders were decided a priori based on the available data. A difference of 10% between crude and adjusted ORs for the primary relationships between drug abuse and engagement or burnout was used as the threshold for confounding.

Relationships between substance abuse and both burnout and engagement were assessed for three different groups; (1) lawyers only ($n = 581$), (2) Support staff only ($n = 120$), and (3) a combined group of labeled all law professionals ($n = 681$) (see Table 1.) Because of the small sample size and relatively rare events, a Firth adjustment was made on all logistic regression on the support staff group. A Firth correction is used for a rare event, as for the support staff and the outcome of drug abuse being less than 10%.[26]

In the model, each dependent variable, engagement, and burnout, were broken down into sept-tiles so that any trends in the data were easily identified graphically. The Simple model has one dependent and independent variable (eg, Dast10 to engagement/burnout). The adjusted model is the simple model and age, gender, and BMI variables. Lastly, the final model is the adjusted model and potential confounding variables. Additional spearmen correlation statistics were calculated between variables burnout and engagement against hours worked and marital status and hours worked to check for an association between those variables.

TABLE 1. Descriptive Data for All law professionals, Lawyers Only

Demographics	Law Professionals $N = 681$ (Mean and SD or N and %)	Lawyers Only $N = 562$ (Mean and SD or N and %)	Support Staff $N = 120$ (Mean and SD or N and %)
Age	47.61 (12.53)	47.59 (12.37)	47.68 (13.27)
BMI	27.55 (6.01)	27.38 (5.84)	28.33 (6.73)
Gender			
Male	387 (56.74%)	375 (66.73%)	12 (10%)
Female	295 (43.26%)	187 (33.27%)	108 (90%)
Location			
Urban	463 (67.99%)	375 (66.73%)	102 (85%)
Sub-urban	155 (22.76%)	137 (24.42%)	18 (15%)
Rural	63 (9.25%)	63 (11.23%)	0 (0%)
Types of law			
College or law school	4 (0.68%)	4 (0.78%)	0 (0%)
In house attorney: corporation of a for-profit institution	42 (7.16%)	42 (8.14%)	0 (0%)
In house attorney: government, public interest, or non-profit	90 (15.33%)	90 (17.44%)	0 (0%)
Other law practice setting	14 (2.39%)	14 (2.71%)	0 (0%)
Other setting (not law practice)	16 (2.73%)	16 (3.10%)	0 (0%)
Private firm (all)	348 (59.23%)	277 (53.68%)	0 (0%)
Private firm (2–6 lawyers)	68 (16.11%)	68 (16.11%)	1 (0.83%)
Private firm (7–15 lawyers)	43 (10.19%)	43 (10.19%)	2 (1.67%)
Private firm (16–50 lawyers)	24 (5.69%)	24 (5.69%)	40 (33%)
Private firm (51–99)	20 (4.74%)	20 (4.74%)	77 (64.17%)
Private firm (100–299)	14 (3.32%)	14 (3.32%)	0 (0%)
Private firm (300–749)	14 (3.32%)	14 (3.32%)	0 (0%)
Sole practitioner private practice average workweek	73 (12.44%)	73 (14.15%)	0 (0%)
<30	95 (13.93%)	82 (14.59%)	13 (10.83%)
31–40	169 (24.78%)	112 (19.93%)	57 (47.50%)
41–50	287 (42.08%)	243 (43.24%)	44 (36.67%)
51–60	103 (15.1%)	98 (17.44%)	5 (4.17%)
61–80	25 (3.67%)	24 (4.27%)	1 (0.83%)
81–100þ	3 (0.34%)	3 (0.54%)	0 (0%)
Years practicing	18.15 (12.74)	18.29 (12.81)	17.50 (12.45)
Days physically active			
0 days	113 (16.57%)	85 (15.12%)	28 (23.33%)
1 day	105 (15.4%)	84 (14.95%)	21 (17.50%)
2 days	118 (17.3%)	99 (17.62%)	19 (15.83%)
3 days	113 (16.57%)	94 (16.73%)	19 (15.83%)
4 days	67 (9.82%)	55 (9.79%)	12 (10.00%)
5 days	74 (10.85%)	63 (11.21%)	11 (9.17%)
6 days	57 (8.36%)	48 (8.54%)	9 (7.50%)
7 days	35 (5.13%)	34 (6.05%)	1 (0.83%)
Engagement cont.	8.82 (3.01)	8.75 (2.98)	9.13 (3.13)
Engagement			
1	84 (12.35%)	71 (12.66%)	13 (10.83%)
2	132 (19.41%)	106 (18.89%)	26 (21.67%)
3	88 (12.94%)	73 (13.01%)	15 (12.50%)
4	98 (14.41%)	84 (14.97%)	14 (11.67%)
5	69 (10.15%)	60 (10.70%)	9 (7.50%)
6	139 (20.44%)	116 (20.68%)	23 (19.17%)
7	70 (10.29%)	51 (9.09%)	16 (15.83%)
Burnout cont.	4.15 (3.42)	4.27 (3.44)	3.60 (3.30)
Burnout			
1	84 (12.33%)	65 (11.65%)	19 (15.83%)
2	102 (14.98%)	77 (13.73%)	25 (20.83%)
3	96 (14.10%)	80 (14.26%)	16 (13.33%)
4	129 (18.94%)	110 (19.61%)	19 (15.83%)
5	58 (8.52%)	51 (9.09%)	7 (5.83%)
6	110 (16.15%)	89 (15.86%)	21 (17.50%)
7	102 (14.98%)	89 (15.89%)	13 (10.83%)
PHQ9	5.34 (5.13)	5.25 (5.03)	5.79 (5.60)
PHQ9 composite score categories			
Minimal depression	377 (55.28%)	309 (54.98%)	27 (22.50%)
Mild	181 (26.54%)	154 (27.40%)	68 (56.67%)
Moderate	70 (10.26%)	57 (10.14%)	13 (10.83%)
Moderately severe	41 (6.01%)	32 (5.69%)	9 (7.50%)
Severe	13 (1.91%)	10 (1.78%)	3 (2.50%)
Drug abuse problem			
Yes	73 (10.70%)	63 (11.21%)	10 (8.33%)
No	609 (89.30%)	499 (88.79%)	110 (91.67%)

RESULTS

Six hundred eighty-nine participants completed and returned the survey. Table 1 contains the sample descriptive statistics, means, standard deviations, or frequencies percentages of important variables collected in this study. Out of this population, 11% of lawyers and law professionals identified as having a drug abuse problem according to a condensed modified DAST10 score.

The Spearman correlation analysis between ranked engagement and ranked burnout concluded a statistically significantly inversely correlated ($r_s = -0.38$, $P < 0.01$, $n = 681$, not shown).

The spearmen correlation coefficient showed moderate strength. Simple and multivariable logistic regression models were created for engagement and burnout independently (Table 2), adjusting for confounders. These analyses demonstrate an increasing linear trend ($P < 0.01$ for each, see Table 2) for the relationship between drug abuse and both engagement and burnout.

Both burnout and engagement discrete numeric variables as well as burnout and engagement categorized into seven groups had a weak statistical correlation to hours worked that were statically significant ($r_s = 0.28$, $P < 0.01$; $r_s = 0.10$, $P < 0.01$; $r_s = 0.27$, $P < 0.01$; $r_s = 0.10$, $P < 0.01$, not shown). Marital status did not have a statically significant relationship to hours worked ($r_s = -0.02$, $P = 0.49$, not shown).

In all three analyses, all law professionals, lawyers only, and support staff, epidemiological variables, age, gender, and BMI were not statistically significant in the analysis of engagement and burnout (not shown). In the engagement final model looking at all law professionals, confounding variables showed statistically significant odds ratios, PHQ9 moderate versus mild (OR = 3.61, 95% CI 1.47–8.83), moderately severe versus mild (OR = 3.04, 95% CI 1.04–8.82), marital status divorced versus married (OR = 3.97, 95% CI 1.84–8.58), as well as the type of law practice family law (OR = 0.19, 95%CI 0.05–0.65), transactional (OR = 0.29, 95% CI 0.11–0.74) showing protective odds ratios as compared to civil litigation type of law.

When looking at lawyers alone, PHQ9 moderate versus mild (OR = 3.67, 95% CI 1.42–9.50), marital status divorced versus married (OR = 4.25, 95% CI 1.73–10.44), as well as type of law practice family law versus litigation (civil) (OR = 0.19, 95% CI 0.05–0.68), transactional versus litigation (civil) (OR = 0.30, 95% CI 0.12–0.77) showing protective statistically significant odds ratios.

Looking at support staff only, PHQ9 minimal depression versus mild (OR = 2.31, 95% CI 2.27–2.35), moderate versus mild (OR = 4.18, 95% CI 4.05–4.32), moderately severe versus mild (OR = 8.77, 95% CI 8.54–9.10), marital status divorced versus married (OR = 2.11 95% CI 2.05–2.17), other versus married (OR = 0.47 95% CI 0.45–0.50), single versus married (OR = 0.64 95% CI 0.62–0.66), law setting private firm (2–6) versus private firm (16–50) (OR = 2.63 95% CI 2.33–2.96), private firm (51–99) versus private firm (16–50) (OR = 1.21 95% CI 1.19–1.23), private firm (7–15) versus private firm (16–50) (OR = 5.93 95% CI 5.43–6.47), and law practice family law versus litigation (civil) (OR = 1.12, 95% CI 1.03–1.22), other versus litigation (civil) (OR = 0.32, 95% CI 0.31–0.32), transactional versus litigation (civil) (OR = 0.28, 95% CI 0.26–0.30), were statistically significant. All other subcategories were not statically significant ($P < 0.05$).

In the burnout final model looking at all law professionals, confounding variables showed statically significant odds ratios, PHQ9 minimal depression versus mild (OR = 2.23, 95% CI 1.04–4.77), moderate versus mild (OR = 3.28, 95% CI 1.32–8.16), moderately severe versus mild (OR = 3.17, 95% CI 1.07–9.31), and marital status divorce versus married (OR = 4.05, 95% CI 1.85–8.87), and type of law practice family law versus litigation (civil) (OR = 0.20, 95% CI 0.06–0.66), transactional versus litigation (civil) (OR = 0.34, 95% CI 0.13–0.85).

When looking at just lawyers, PHQ9 moderate versus mild (OR = 2.87, 95% CI 1.09–7.59), marital status divorced versus married (OR = 4.53, 95% CI 1.81–11.33), and type of law practice family law versus litigation (civil) (OR = 0.20, 95% CI 0.06–0.68), transactional versus litigation (civil) (OR = 0.35, 95% CI 0.13–0.88), were statistically significant.

Looking at support staff, PHQ9 minimal depression versus mild (OR = 2.84, 95% CI 2.78–2.89), moderate versus mild (OR = 4.7, 95% CI 4.54–4.89), moderately severe versus mild (OR = 9.03, 95% CI 8.70–9.37), marital status divorced versus married (OR = 1.58 95% CI 1.53–1.62), single versus married (OR = 0.82 95% CI 0.80–0.85), type of law practice administrative, government or regulatory versus litigation (civil) (OR = 0.70, 95% CI 0.65–0.76), other versus litigation (Civil) (OR = 0.50, 95% CI 0.49–0.50), family law versus litigation (civil) (OR = 0.70, 95% CI 0.64–0.77), transactional versus litigation (civil) (OR = 0.19, 95% CI 0.17–0.21), law setting private firm (2–6) versus private firm (16–50) (OR = 3.87 95% CI 3.43–4.36), private firm (51–99) versus private firm (16–50) (OR = 0.88 95% CI 0.86–0.89) private firm (7–15) versus private firm (16–50) (OR = 3.60 95% CI 3.30–3.93) were statistically significant. All other subcategories were not statistically significant ($P > 0.05$).

When looking at the entire population of law professionals, the simple regressions involving burnout showed statistically significant results (burnout $P = 0.04$; engagement $P = 0.07$). Compared to looking at lawyers, only the simple regression did not show statistical significance (burnout $P = 0.11$; engagement $P = 0.32$). According to the results of this study, law professionals whose burnout scores fell in the highest bin (7/7) had 4.71 (95% CI 1.38–16.08) higher odds of having a drug abuse problem than those whose burnout scores fell in the second (2/7) bin when looking at the final model. Additionally, Law professionals whose engagement scores fell in the third (3/7) bin have 3.4 (95% CI [1.11–10.38]) times higher odds of having a problem with drug abuse than those whose engagements scores fall in the last bin (7/7) when looking at the final model.

DISCUSSION

This study sought to determine the degree to which burnout and engagement were independently associated with drug abuse among lawyers and law professionals. Prior research has demonstrated that while these factors are inversely correlated, they are not two versions of the same construct. That is, someone can have both high levels of engagement and burnout and, both low levels of engagement and burnout. Therefore, they were run in separate models to see their relationships with drug abuse in this population.[14,15] This inverse relationship suggests that those with low engagement also have high burnout and vice versa, but this is not uniformly the case. In this study, burnout and engagement may be two separate constructs that may be related. However, the relationship is still unclear in the entirety of the literature,[27,28] which is in line with what Taris et al[27] discussed. Taris et al[27] states that some research studies clearly and unambiguously distinguish between these concepts while others do not. One study performed on police offices looked at work values and discovered that the polices officer's intrinsic work values were more sensitive to different levels of job burnout combined with levels of work engagement.[29] That study did not show that between the two variables that there was a strong correlation. In that population, but what they did mention was that when it came to the work values experience, the dependent variable of the study, there was some correlation between the two variables.[29] Similar to how this study showed a correlation between the two constructs ($r_s = -0.38$).

In this study, both Burnout and Engagement showed a weak correlation to the outcome variable of Drug abuse ($r_s = 0.12$, $P = 0.001$; $r_s = -0.09$, $P = 0.01$). The independent inversely related relationships of burnout and engagement with drug abuse suggest that actively increasing engagement may lower burnout and may have a

TABLE 2. Odds Ratios and 95% Confidence Intervals for Relationships Between Substance Use Disorder and both Burnout and Engagement

	Law Professionals $N = 681$			Lawyers Only $N = 561$			Support Staff $N = 120$		
	Simple Model OR [95% CI]	**Adjusted* Model OR [95% CI]**	**Final† Model OR [95% CI]**	**Simple Model OR [95% CI]**	**Adjusted* Model OR [95% CI]**	**Final† Model OR [95% CI]**	**Simple Model OR [95% CI]**	**Adjusted* Model OR [95% CI]**	**Final† Model OR [95% CI]**
Burnout									
1	1.55 [0.40–5.96]	1.56 [0.40–6.03]	1.83 [0.45–7.45]	2.05 [0.47–8.95]	2.06 [0.47–9.02]	2.38 [0.50–11.34]	1.93 [0.48–7.78]	1.94 [0.48–7.75]	2.09 [0.53–8.26]
2	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)
3	2.84 [0.86–9.41]	2.74 [0.82–9.10]	3.22 [0.93–11.17]	3.12 [0.81 -12.02]	3.11 [0.80–11.99]	3.53 [0.86–14.40]	2.82 [0.78–10.12]	2.81 [0.79–9.97]	2.97 [0.86–10.27]
4	**3.22 [1.03–10.03]**	**3.15 [1.01–9.82]**	**3.93 [1.20–12.87]**	2.74 [0.73–10.17]	2.77 [0.74–10.32]	3.37 [0.84–13.43]	2.43 [0.70–8.42]	2.45 [0.71–8.40]	2.82 [0.83–9.51]
5	2.31 [0.59–8.97]	2.22 [0.57–8.70]	3.37 [0.81–14.09]	2.68 [0.61–11.75]	2.73 [0.61–12.07]	4.00 [0.84–18.99]	2.51 [0.52–10.20]	2.54 [0.63–10.26]	3.38 [0.85–13.35]
6	**4.17 [1.34–12.93]**	**3.99 [1.27–12.51]**	**4.73 [1.38–16.23]**	**4.60 [1.27–16.68]**	**4.63 [1.26–16.99]**	**5.51 [1.36–22.30]**	**4.08 [1.20–13.81]**	**4.07 [1.20–13.77]**	**4.41 [1.28–15.17]**
7	**5.25 [1.71–16.12]**	**5.20 [1.68–16.16]**	**5.29 [1.46–19.10]**	**5.40 [1.51–19.34]**	**5.68 [1.56–20.68]**	**6.37 [1.47–27.52]**	**4.77 [1.43–15.94]**	**4.95 [1.47–16.62]**	**4.96 [1.35–18.21]**
Burnout per unit‡									
	1.11 [1.04–1.18]	**1.11 [1.03–1.19]**	**1.37 [1.05–1.45]**	**1.10 [1.02–1.18]**	**1.10 [1.02–1.19]**	**1.25 [1.04–1.50]**	**1.22 [1.06–1.41]**	**1.23 [1.06–1.43]**	**1.22 [1.03–1.45]**
Engagement									
1	**4.85 [1.34–17.51]**	**4.71 [1.29–17.12]**	**4.96 [1.23–19.93]**	3.25 [0.86–12.19]	3.29 [0.87–12.41]	3.67 [0.84–15.95]	13.00 [0.56–300.94]	9.47 [0.47–190.29]	**4.18 [4.04–4.32]**
2	3.29 [0.93–11.67]	3.07 [0.86–10.96]	3.49 [0.90–13.45]	2.23 [0.60–8.22]	2.12 [0.57–7.91]	2.67 [0.64–10.99]	7.80 [0.36–166.24]	7.13 [0.39–128.63]	**3.59 [3.50–3.68]**
3	1.34 [0.31–5.82]	1.25 [0.28–5.48]	1.31 [0.27–6.27]	1.17 [0.26–5.15]	1.14 [0.25–5.05]	1.23 [0.25–6.04]	1.25 [0.2–75.40]	0.90 [0.01–47.00]	0.87 [0.83–0.92]
4	**3.71 [1.02–13.47]**	3.47 [0.94–12.70]	**4.57 [1.15–18.14]**	2.92 [0.79–10.83]	2.87 [0.76–10.78]	4.11 [0.97 -17.33]	4.33 [0.14–125.77]	2.74 [0.10–70.07]	**1.86 [1.79–1.93]**
5	2.52 [0.62–10.17]	2.31 [0.56–9.43]	3.07 [0.68–13.77]	1.77 [0.42–7.49]	1.68 [0.39–7.20]	2.26 [0.47–10.88]	6.88 [0.22–208.74]	6.18 [0.23–165.21]	**6.59 [6.32–6.87]**
6	2.10 [0.57–7.72]	1.99 [0.54–7.33]	2.43 [0.61–9.54]	1.67 [0.44–6.23]	1.63 [0.43–6.15]	2.08 [0.50–8.57]	2.60 [0.09–73.26]	2.06 [0.08–49.49]	**1.04 [1.00–1.07]**
7	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)	1.00 (Reference)
Engagement per unit§									
	0.89 [0.82–0.96]	**0.89 [0.82–0.96]**	**0.84 [0.72–0.98]**	**0.91[0.84–0.99]**	**0.91[0.83–0.99]**	0.89 [0.76–1.05]	**0.67 [0.46–0.97]**	**0.68 [0.47–0.97]**	**0.75 [0.75–0.75]**

Indicates $P < 0.05$.

BMI, body mass index.

*Adjusted for Age, gender, and BMI.

†Adjusted model plus marital status, PHQ9 categorized, law setting, law practice.

‡Burnout measured continuously from 0 to 12.

§Engagement measured continuously from 0 to 15.

synergistic effect on reducing drug abuse. This differs from Ivanovic et al[14] that burnout and engagement are considered two opposite sides of the same coin. This study more closely aligns with what was stated by Taris et al[27], "burnout and engagement to a large degree overlapping concepts and that their conceptual and empirical differences should not be overestimated," which was a study that sought to address, to what extent are burnout and engagement separate constructs, and how the four central dimensions of burnout and engagement differently related to job demands and job resources.[27]

When analyzing the results of this study, the variables of burnout and engagement were combined into seven bins verse analyzing them in their composite scores. These variables are not necessarily looked at with various cut points (eg, a score of below a 4 is low and about is moderate) but more in percentages. These variables have been divided into seven bins, so roughly every bin represents 14% of the responding data. This was done to equate the two constructs on the same scale. Originally, burnout was scored out of 12, and engagement was scored out of 15. This way, the highest bins represent the highest 14% of the data for both variables.

When looking at the population in both simple models, there is a statistically significant association between burnout and drug abuse and engagement and drug abuse. These results showed that for the case of burnout, it is as high as five times the odds of using drugs if the burnout score was in the highest bins compared to the second bin. Meaning, within this law professional's population, if someone scored in the highest 14%, the seventh bin, then that person is five times more likely to have abused drugs than if someone scored between the 15% and 29% range, second bin. Similarly, engagement showed that someone's odds of drug abuse were 3.5 times higher if someone scored in the 15% to 29% second bin range compared to the top 14% seventh bin.

In both final models, the confounding variable of marital status showed that divorced law professionals had a 4.43 (Burnout model) and 4.61 (Engagement model) times higher odds of abusing drugs than a married law professional, holding all other variables constant. In both final models (Engagement $P = 0.05$; Burnout $P = 0.05$), there was a trend toward statistical significance in the type of law practice variable. The model showed that when compared to civil litigation law, family law (OR = 0.19, 95% CI [0.05–0.66], $P = 0.00$) and transactional law (OR = 0.33,95% CI [0.13–0.87], $P = 0.02$) had statistically significant odd ratio in the Engagement final model.

In the burnout final model when compared to civil litigation, for Family law (OR = 0.20, 95% CI [0.06–0.68], $P = 0.01$) and transactional law (OR = 0.37, 95% CI [0.14_0.95], $P = 0.03$) had a protective odds ratio when it comes to the outcome of Drug abuse in this population.

These two separate constructs not only demonstrated significance in a categorical fashion but both burnout and engagement also showed statistical significance as a per-unit increase measurement (see Table 2). Meaning for both engagement and burnout, as the score gets higher, it is more likely to have higher odds of having a drug abuse problem.

These two related coins may not only affect drug abuse potentially, but according to research, this coin may have an effect other work-related issues such as on employee turnover, among others, As well as other populations such as first responders, alcohol and drug workers, and University teachers.[14,27,30,31]

In addition to the hypothesis in this study, this study attempted to look at a compound effect of burnout and engagement on the outcome of drug abuse. For this population, there was no statistical significance at looking at the interaction between burnout and engagement on the outcome of drug abuse for both the composite variable and the ranked variables, respectively ($P = 0.76$; $P = 0.51$, analysis not shown), which was a Future research statement in a study done by Schaufeli et al.[16]

The limitations of this study are that further testing and verification are needed in a broader sample, like additional states or a larger region. Also, potentially getting a more substantial and broader group of law professionals that are not lawyers. Suppose there was a second group, large enough. In that case, that could test against the Lawyers only group, possibly a specific area(s) within the Law profession could be identified as at higher risk than the rest.

There are likely to be additional confounders that were not able to control for in this study, such as socioeconomic status, history of depression, history of alcohol abuse. We were able to control for age, sex, BMI, PHQ9, and marital status in the logistic regression models. A strength of this study is that this study is one of the first to look at the drug abuse outcome and potential confounders in the lawyers and law professionals. Being a front runner for this type of research will potentially springboard other studies to explore similar outcomes in this integral population.

In terms of practical implicates, this study may help show law firms, state bar, and other law organizations that many lawyers are not only in distress but are potentially dealing with drug abuse or burnout. Future research should include further epidemiological work and intervention studies where science-based interventions are deployed to see if the odds of drug abuse can be reduced in this population. Also, researchers and educational institutions may consider assisting in the education and training of future Law professionals and Lawyers to help avoid these adverse outcomes.

CONCLUSION

Study findings showed that there is potentially a way to affect the prevalence of drug abuse in law professionals by affecting the engagement and burnout dichotomy. The current study serves two significant purposes: a preliminary study of the relationship between burnout and engagement and drug abuse in law professionals. First, it provides a significant warning to show leaders of law firms, state bars, other similar organizations, and the lawyers and law professionals themselves concerning drug abuse in this integral occupation and how it can be potentially changed by affecting the engagement and burnout dichotomy. Second, it provides researchers with a needed starting point and a place to focus on to start a process of improving the well-being of lawyers and other lay professionals.

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REFERENCES

1. Thiese MS, Allen JA, Knudson M, Free K, Petersen P. Depressive symptoms and suicidal ideation among lawyers and other law professionals. *J Occup Environ Med*. 2021;63:381–386.
2. Mounteer JE. Depression among lawyers. *CoLo LAw* 2004;33:35.
3. Krill PR, Johnson R, Albert L. The prevalence of substance use and other mental health concerns among American attorneys. *J Addict Med*. 2016;10:46.
4. Allen HK, Barrall AL, Vincent KB, Arria AM. Stress and Burnout among graduate students: moderation by sleep duration and quality. *Int J Behav Med*. 2021;28:21–28.
5. Naeem M, Ozuem W. Exploring the use of social media sites for health professionals' engagement and productivity in public sector hospitals. *Empl Relat Int J*. 2021;43:1029–1051.
6. Austin DS. Drink like a lawyer: the neuroscience of substance use and its impact on cognitive wellness. *Nev LJ*. 2014;15:826.

7. Bergin AJ, Jimmieson NL. Australian lawyer well-being: workplace demands, resources and the impact of time-billing targets. *Psychiatr Psychol Law*. 2014; 21:427–441.
8. Krieger LS, Sheldon KM. What makes lawyers happy: a data-driven prescription to redefine professional success. *Geo Wash L Rev*. 2014;83:554.
9. Maslach C, Jackson S. Lawyer burn out. *Barrister*. 1978;5:8.
10. Organ JM. What do we know about the satisfaction/dissatisfaction of lawyers: a meta-analysis of research on lawyer satisfaction and well-being. *U St Thomas LJ*. 2010;8:225.
11. Rothstein L. Law students and lawyers with mental health and substance abuse problems: protecting the public and the individual. *U Pitt L Rev*. 2007;69:531.
12. Sheldon KM, Krieger LS. Service job lawyers are happier than money job lawyers, despite their lower income. *J Positive Psychol*. 2014;9:219–226.
13. Bigos SJ, Battie´ MC, Spengler DM, et al. A prospective study of work perceptions and psychosocial factors affecting the report of back injury. *Spine*. 1991;16:1–6.
14. Ivanovic T, Ivancevic S, Maricic M. The relationship between recruiter burnout, work engagement and turnover intention: evidence from Serbia. *Eng Econ*. 2020;31:197–210.
15. Christian MS, Garza AS, Slaughter JE. Work engagement: a quantitative review and test of its relations with task and contextual performance. *Personnel psychol*. 2011;64:89–136.
16. Schaufeli WB, Bakker AB, Hoogduin K, Schaap C, Kladler A. On the clinical validity of the Maslach burnout inventory and the burnout measure. *Psychol Health*. 2001;16:565–582.
17. Schaufeli WB, Buunk BP. Burnout: an overview of 25 years of research and theorizing. *Handb Work Health Psychol*. 2003;2:282–424.
18. De Bruin GP, Henn CM. Dimensionality of the 9-item Utrecht work engagement scale (UWES-9). *Psychol Rep*. 2013;112:788–799.
19. Prins JT, Hoekstra-Weebers JE, Gazendam-Donofrio SM, et al. Burnout and engagement among resident doctors in the Netherlands: a national study. *Med Educ*. 2010;44:236–247.
20. Schaufeli WB, Bakker AB, Salanova M. The measurement of work engagement with a short questionnaire: a cross-national study. *Educ Psychol Measure*. 2006; 66:701–716.
21. Schaufeli WB, Shimazu A, Hakanen J, Salanova M, De Witte H. An ultra- short measure for work engagement. *Eur J Psychol Assess*. 2019;35:577–591.
22. Hakanen JJ, Ropponen A, Schaufeli WB, De Witte H. Who is engaged at work?: A large-scale study in 30 European countries. *J Occup Environ Med*. 2019;61: 373–381.
23. Kulikowski K. Do we all agree on how to measure work engagement? Factorial validity of Utrecht Work Engagement Scale as a standard measurement tool—a literature review. *Int J Occup Med Environ Health*. 2017;30:161–175.
24. Lazauskaitė-Zabielskė J, Urbanavičiūtė I, Balsienė RR. The structure of work engagement: A test of psychometric properties of the Lithuanian version of the Utrecht Work Engagement Scale. *Eur J Psychol Assess*. 2020;36:601.
25. Rockne WY, Quinn KC, James G, Cochran A. Identification of substance use disorders in burn patients using simple diagnostic screening tools (AUDIT/ DAST-10). *Burns*. 2019;45:1182–1188.
26. Roy S, Banerjee T. Estimation of log-odds ratio from group testing data using Firth correction. *Biometr J*. 2019;61:714–728.
27. Taris TW, Ybema JF, van Beek I. Burnout and engagement: identical twins or just close relatives? *Burnout Res*. 2017;5:3–11.
28. Suárez-Colorado Y, Caballero-Doínguez C, Palacio-San˜udo J, Abello-Llanos R. The academic burnout, engagement, and mental health changes during a school semester. *Duazary*. 2019;16:23–37.
29. Ackerley GD, Burnell J, Holder DC, Kurdek LA. Burnout among licensed psychologists. *Prof Psychol Res Pract*. 1988;19:624.
30. Khanday MA, Siddiqi MA. Burnout and Work Engagement among College and University Teachers: a Study of Institutions of Higher Learning. *International Journal of Marketing and Management Research*. 2017;8:70–79.
31. Skinner N, Roche AM. 'Very demanding. Extremely rewarding': exploring the co-occurrence of burnout and engagement in alcohol and other drug workers. *Drug Alcohol Rev*. 2021;40:989–997.

