

Who's Distressed? Not Only Law Students: Psychological Distress Levels in University Students Across Diverse Fields of Study

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Abstract

Empirical studies consistently find that law students report high levels of psychological distress. But are law students at heightened risk among their university peers? The few available comparative studies suggest that law students may experience higher levels of psychological distress than their counterparts in medical degrees. However, data are scarce that compare the distress levels of students in law with students in non-medical programs. The study reported here addressed that gap by comparing the prevalence of psychological distress among law students and non-law students undertaking diverse academic programs at both undergraduate and graduate levels. The findings show that a significant proportion of students in diverse fields and at all levels of study reported high levels of psychological distress. Moreover, the law students' odds of reporting severe symptoms of psychological distress were not the highest on any of the measures used. Overall, the findings suggest that law students are not alone among university students in experiencing high levels of psychological distress. We discuss the implications of this finding for current efforts to address student wellbeing in legal education.

I Introduction

Empirical studies in the United States and Australia have consistently found that law students experience high levels of psychological distress.¹ While results from

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¹ For overviews of the empirical research in United States law schools, see Matthew M Dammeyer and Narina Nunez, 'Anxiety and Depression Among Law Students: Current Knowledge and Future Directions' (1999) 23(1) *Law and Human Behaviour* 55; Todd David Peterson and Elizabeth Waters Peterson, 'Stemming the Tide of Law Student Depression: What Law Schools Need to Learn from the Science of Positive Psychology' (2009) 9(2) *Yale Journal of Health Policy, Law and Ethics* 357. For results of empirical research into students' distress levels in Australian law schools see Norm Kelk et al, 'Courting the Blues: Attitudes towards Depression in Australian Law

the various studies are generally not directly comparable, the consistency in findings seems to indicate that there are common factors in legal education that contribute to student distress, notwithstanding wide variations in teaching practices, learning environments and regulatory frameworks across institutions and countries. Factors ‘typical’ of legal education posited to undermine students’ mental wellbeing include: the competitive academic environment in law schools, exacerbated by normative grading and heavily weighted exams;² high-stakes prizes for achievement (narrowly defined) and the shrinking legal job market;³ an emphasis on analytical, adversarial argumentation at the expense of experiential and value-driven thinking;⁴ high student–teacher ratios and traditional or Socratic teaching methods that further preclude students’ formation of meaningful interpersonal relationships with teachers and classmates;⁵ a highly constrained curriculum (driven by admission to practice requirements) that limits students’ exploration of established or emerging interests;⁶ high workloads, especially reading requirements, coupled with the conceptual challenges involved in learning to ‘think like a lawyer’;⁷ and the self-selection into law of certain ‘personality’ types who may tend to be driven, perfectionistic or achievement-oriented.⁸

In an effort to redress and minimise such stressors, law schools in Australia have introduced a range of initiatives and reforms in recent years.⁹ Many of these

Students and Lawyers’ (Monograph 2009-1, Brain & Mind Research Institute, University of Sydney, January 2009); Molly Townes O’Brien, Stephen Tang and Kath Hall, ‘Changing Our Thinking: Empirical Thinking on Law Student Wellbeing, Thinking Styles and the Law Curriculum’ (2011) 21 *Legal Education Review* 149; Anthony Lester, Lloyd England and Natalia Antolak-Saper, ‘Health and Wellbeing in the First Year: The Law School Experience’ (2011) 36 *Alternative Law Journal* 47; Wendy Larcombe et al, ‘Does an Improved Experience of Law School Protect Students Against Depression, Anxiety and Stress? An Empirical Study of Wellbeing and the Law School Experience of LLB and JD Students’ (2013) 35 *Sydney Law Review* 407 (‘LLB and JD Students’); Wendy Larcombe and Katherine Fethers, ‘Schooling the Blues? An Investigation of Factors Associated with Psychological Distress among Law Students’ (2013) 36(2) *University of New South Wales Law Journal* 390; Adele Bergin and Kenneth Pakenham, ‘Law Student Stress: Relationships Between Academic Demands, Social Isolation, Career Pressure, Study/Life Imbalance and Adjustment Outcomes in Law Students’ (2014) *Psychiatry, Psychology and Law*, doi:10.1080/13218719.2014.960026; Natalie Skead and Shane L Rogers, ‘Stress, Anxiety and Depression in Law Students: How Student Behaviours Affect Student Wellbeing’ (2014) 40(2) *Monash University Law Review* (forthcoming). These studies can be contrasted with the results of studies with students undertaking practical legal training (after graduation): see Stephen Tang and Aneka Ferguson, ‘The Possibility of Wellbeing: Preliminary Results from Surveys of Australian Professional Legal Education Students’ (2014) 14(1) *QUT Law Review* 27.

² Larcombe et al, ‘LLB and JD Students’, above n 1; Helen Stallman, ‘A Qualitative Evaluation of Perceptions of the Role of Competition in the Success and Distress of Law Students’ (2012) 31 *Higher Education Research & Development* 891; Lawrence S Krieger, ‘Human Nature As a New Guiding Philosophy for Legal Education and the Profession’ (2008) 47 *Washburn Law Journal* 247. Krieger, above n 2; Bergin and Pakenham, above n 1.

³ Townes O’Brien, Tang and Hall, above n 1; Tang and Ferguson, above n 1.

⁴ Peterson and Peterson, above n 1; Bergin and Pakenham, above n 1.

⁵ This factor may be of particular relevance in Australian legal education where a high number of compulsory subjects are prescribed.

⁶ Bergin and Pakenham, above n 1; Elizabeth Mertz, *The Language of Law School: Learning to “Think Like a Lawyer”* (Oxford University Press, 2007).

⁷ Susan Daicoff, ‘Lawyer, Know Thyself: A Review of Empirical Research on Attorney Attributes Bearing on Professionalism’ (1997) 46 *The American University Law Review* 1337.

⁸ For a useful summary, see Penelope Watson and Rachael Field, ‘Promoting Student Well-Being and Resilience at Law School’ in Sally Kift et al (eds), *Excellence and Innovation in Legal*

have been informed by a branch of psychology called ‘Self-Determination Theory’ (SDT), especially as it has been applied to legal education by Kennon Sheldon and Lawrence Krieger in the US.¹⁰ SDT posits that there are ‘basic’, universal psychological needs that must be consistently met — across the different domains of life — to sustain intrinsic motivation and psychological wellbeing.¹¹ Applied to legal education, SDT-informed research and practice concentrates on students’ needs for relatedness, or meaningful connections with others, competence and autonomy¹² and the ways in which these needs may be supported (or undermined) by conditions and practices in specific learning and institutional environments.¹³ Assessment practices, curriculum design, cohort interactions, law school culture, and strategies to build competence in ‘threshold’ discipline skills are often the focus of SDT-informed work in legal education.¹⁴ Insights from Positive Psychology have also been drawn on in more student-centred wellbeing initiatives.¹⁵ These typically aim to build students’ psychological literacy and resilience, self-management and relationship skills, and develop cognitive strategies to manage uncertainty, change and adversity. Such initiatives are likely

Education (LexisNexis, 2011) ch 15. See also (2014) 14(1) *QUT Law Journal* Special Edition: Wellness for Law; (2011) 21(2) *Legal Education Review* Special Issue: Law Student Wellbeing; conference papers published on website of the Australian Wellness Network for Law, *Forums* <<http://wellnessforlaw.com/forums/>>.

- ¹⁰ Kennon M Sheldon and Lawrence S Krieger, ‘Does Legal Education Have Undermining Effects on Law Students? Evaluating Changes in Motivation, Values, and Well-Being’ (2004) 22 *Behavioral Sciences and the Law* 261 (‘Changes in Motivation’); Kennon M Sheldon and Lawrence S Krieger, ‘Understanding the Negative Effects of Legal Education on Law Students: A Longitudinal Test of Self-Determination Theory’ (2007) 33 *Personality and Social Psychology Bulletin* 883 (‘Negative Effects’); Krieger, above n 2.
- ¹¹ Richard M Ryan and Edward L Deci, ‘Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being’ (2000) 55 *American Psychologist* 68; Kennon M Sheldon et al, ‘What is Satisfying About Satisfying Events? Testing 10 Candidate Psychological Needs’ (2001) 80 *Journal of Personality and Social Psychology* 325.
- ¹² Note that ‘autonomy’ has a specific meaning in SDT theory — see Kennon M Sheldon et al, ‘Applying Self-Determination Theory to Organizational Research’ (2003) 22 *Research in Personnel and Human Resources Management* 357, 366–8.
- ¹³ Ryan and Deci, above n 11; Vincent F Filak and Kennon M Sheldon, ‘Student Psychological Need Satisfaction and College Teacher-Course Evaluations’ (2003) 23 *Educational Psychology* 235, 237; see generally publications on the Self-Determination Theory website under education: <<http://www.selfdeterminationtheory.org/domains/education-domain/>>.
- ¹⁴ Anna Huggins, ‘Autonomy Supportive Curriculum Design: A Salient Factor in Promoting Law Students’ Wellbeing’ (2012) 35 *University of New South Wales Law Journal* 683; Rachael Field and Sally Kift, ‘Addressing the High Levels of Psychological Distress in Law Students through Intentional Assessment and Feedback Design in the First Year Law Curriculum’ (2010) 1 *The International Journal of the First Year in Higher Education* 65; Wendy Larcombe and Ian Malkin, ‘The JD First Year Experience: Design Issues and Strategies’ (2011) 21 *Legal Education Review* 1; Anna Huggins, Sally Kift and Rachael Field, ‘Implementing the Self-Management Threshold Learning Outcome for Law: Some Intentional Design Strategies from the Current Curriculum Toolbox’ (2011) 21(2) *Legal Education Review* 183; Aiden Ricketts, ‘Threshold Concepts in Legal Education’ (2006) 26(2) *Directions: Journal of Educational Studies* 2.
- ¹⁵ The social or environmental conditions of psychological wellbeing, and psychological distress, are of primary concern in SDT, which distinguishes it from the associated field of Positive Psychology. On the latter, see Peterson and Peterson, above n 1; see also James Duffy, ‘Balance and Context: Law Student Well-Being and Lessons from Positive Psychology’ and Colin James, ‘Resilient Lawyers: Maximising Well-Being in Legal Education and Practice’ both in Rachael Field, James Duffy and Anna Huggins (eds), *Promoting Law Student and Lawyer Wellbeing in Australia and Beyond* (Ashgate, 2015) (forthcoming).

to have multiple benefits for law students, during and beyond law school. However, their impacts on students' levels of psychological distress have not been empirically assessed to date. Moreover, the impact of law schools' efforts to improve student wellbeing will be limited or even undermined if external or environmental causes of law student distress are not also addressed.

An important, but as yet unanswered, research question is whether it is *legal* education that is particularly stressful for students. There is some evidence to suggest that university students in general experience high levels of psychological distress.¹⁶ These findings are supported by data from university health and counselling services who report increased demand from students, and also increasing numbers of students experiencing severe mental health difficulties.¹⁷ Some United Kingdom (UK) commentators suggest that the pressures on university students have increased in recent years as a result of reductions in government allowances, widening participation agendas and more limited job prospects for graduates — factors common to other national contexts.¹⁸ Australian research highlights changes in the university 'student experience' as students spend less time on university campuses and more time in paid employment.¹⁹ Moreover, when on campus, increases in student intakes and class sizes make it more difficult for contemporary students to feel they are known by university staff members and to make friends in classes.²⁰ The extent to which such factors may be prompting psychological distress among university students is not yet known.

It is also unknown whether law students are presently at heightened risk of experiencing psychological distress among their university peers. Most of the research with general university student populations has not collected data on students' field of study or academic discipline.²¹ However, for legal educators, the

¹⁶ Eg, Helen M Stallman, 'Psychological Distress in University Students; A Comparison with General Population Data' (2010) 45 *Australian Psychologist* 249; Daniel Eisenberg, Justin Hunt and Nicole Speer, 'Mental Health in American Colleges and Universities: Variation Across Student Subgroups and Across Campuses' (2013) 201(1) *Journal of Nervous and Mental Disease* 60; David Said, Kypros Kypri and Jenny Bowman, 'Risk Factors for Mental Disorder among University Students in Australia: Findings from a Web-based Cross-sectional Survey' (2013) 48(6) *Social Psychiatry and Psychiatric Epidemiology* 935.

¹⁷ Eg, Ozgur Erdur-Baker et al, 'Nature and Severity of College Students' Psychological Concerns: A Comparison of Clinical and Nonclinical National Samples' (2006) 37(3) *Professional Psychology: Research and Practice* 317; Helen Stallman, 'Prevalence of Psychological Distress in University Students: Implications for Service Delivery' (2008) 37(8) *Australian Family Physician* 673; Royal College of Psychiatrists, *Mental Health of Students in Higher Education*, College Report CR166, (2011).

¹⁸ Ann Macaskill, 'The Mental Health of University Students in the United Kingdom' (2013) 41(4) *British Journal of Guidance and Counselling* 426; Royal College of Psychiatrists, above n 17.

¹⁹ Emmaline Bexley et al, *University Student Finances in 2012: A Study of the Financial Circumstances of Domestic and International Students in Australia's Universities* (Universities Australia, 2013); Richard James, Kerrie-Lee Krause and Claire Jennings, *The First Year Experience in Australian Universities: Findings from 1994 to 2009* (Centre for the Study of Higher Education, 2010).

²⁰ James, Krause and Jennings, above n 19; Ali Radloff et al, *2012 University Experience Survey National Report* (Australian Government Department of Industry, Innovation, Science, Research and Tertiary Education, 2012).

²¹ In some studies where discipline or academic program has been recorded and investigated, law students have not been included — see, eg, Nuran Bayram and Nazan Bilgel, 'The Prevalence and

question of whether law students experience higher rates of psychological distress than students in other academic disciplines is of considerable importance, particularly in guiding work to support student mental wellbeing. In short, knowing whether law students are at increased risk relative to other cohorts of university students can tell us where and how to direct attention and resources. In particular, such knowledge would afford legal educators some insight into the extent to which law-specific curricula or ‘personality’ factors may be contributing to the high levels of distress reported by law students. Similarly, knowledge of relative risk would afford insight into the extent to which study in other disciplines contributes to student distress. Given that many law students in Australia undertake ‘combined’ degrees — combining study in law with another Bachelor program — it is particularly important to know whether efforts to support law student mental wellbeing may be more effective if designed in collaboration across disciplines. In this way, studies of student psychological wellbeing that investigate academic discipline (or field of study) can contribute to evidence-based, good practice in supporting university student mental health.

Data are scarce that compare the mental wellbeing of students in law with students in other fields of academic study. Moreover, almost all the limited existing research has compared the mental health of medical and law students, on the basis that both programs are academically challenging, entry-to-profession degrees with demanding workloads.²² Medical educators, like legal educators, have been concerned for decades about the impacts on future practitioners of forms of professional training that appear to produce or trigger very high levels of psychological distress. And, while medical training has long been considered ‘high pressure’, studies comparing medical and law students’ distress levels have often found that the law students report even higher levels of psychological distress (on a range of measures) than their counterparts in medical degrees.²³ While this suggests that law students are exposed to particularly high levels of psychological stress, the assumption that law and medicine are inherently more stressful than other academic courses — professional or general — should not remain untested. Particularly when medical graduates have almost unparalleled job security, they may not be the closest comparator for contemporary law students.²⁴ Research is needed that investigates whether law students are at heightened risk of experiencing psychological distress when compared with university students studying in different types of academic programs — professional and general.

The study reported here addressed that need by investigating the prevalence and severity of symptoms of psychological distress among law students and non-law students enrolled in diverse fields of study at both undergraduate (Bachelors) and postgraduate (Masters) levels. The analysis draws on data collected in a study of student wellbeing conducted in 2013 at The University of Melbourne, a large

Socio-demographic Correlations of Depression, Anxiety and Stress among a Group of University Students’ (2008) 43(8) *Social Psychiatry and Psychiatric Epidemiology* 667.

²² See Appendix to this article.

²³ Discussed in Part II.

²⁴ We thank one of the anonymous reviewers for emphasising this point.

metropolitan university in Victoria, Australia.²⁵ As detailed below, more than 4,700 students from six faculties/schools participated in the study by completing an anonymous, online questionnaire that included the DASS-21 — a short version of the Depression, Anxiety and Stress Scales.²⁶ This article reports the DASS results for the law student sample and places those results in the context of published DASS results for other law students and general population samples. The law and non-law students' results from the study are then compared in terms of the mean DASS scores for each scale and the odds of reporting severe or extremely severe DASS scores.

Our law students' DASS scores support earlier research that suggests a substantial proportion of law students experience high levels of psychological distress.²⁷ However, our comparative analyses indicate that, when law students' levels of psychological distress are taken as the baseline, there are few statistically significant differences in the results of non-law student cohorts. These findings suggest that law students are not alone among university students in experiencing high levels of psychological distress. Indeed, law students may not be at highest risk among their university peers.

The article is organised as follows. Part II reviews published research that compares the psychological distress levels of law students with those of other cohorts of university students. Part III outlines the methodology used and the participant sample in the 2013 study. Part IV reports the law students' DASS results in relation to other law student samples, as well as normative community samples. Part V compares the DASS results of the law students and the non-law students in the 2013 study. Finally, in Part VI we discuss the implications of the reported findings for work currently being undertaken in law schools to better support student mental wellbeing. Suggestions for further research are also offered.

II Comparative Studies of Law Student Distress

Surprisingly few of the empirical studies of psychological distress among law students have included cohorts of non-law students as comparators. Our review of the published literature identified only eight studies in which both law and non-law students attending the same university²⁸ were recruited and assessed using common

²⁵ Selected findings from that study have been reported in Wendy Larcombe et al, 'Prevalence and Socio-Demographic Correlates of Psychological Distress Among Students at an Australian University' (2014) *Studies in Higher Education* (forthcoming) DOI: 10.1080/03075079.2014.966072. Note that the analyses reported in that article did not focus on the law students' results.

²⁶ Steven H Lovibond and Peter F Lovibond, *Manual for the Depression Anxiety Stress Scales* (Psychology Foundation of Australia, 2nd ed, 1995). The survey also included Ryff's Psychological Wellbeing scales — a measure of positive mental health — and a range of scales investigating students' course experience. However, it is beyond the scope of this article to report those results here. On the Ryff's Wellbeing scales, see Carol D Ryff and Corey Lee M Keyes, 'The Structure of Psychological Well-Being Revisited' (1995) 69(4) *Journal of Personality and Social Psychology* 719. A copy of the survey used in the present study can be obtained from the corresponding author.

²⁷ See above n 1.

²⁸ In order to understand the impact, if any, of field of study (or discipline), it is important to recruit students from the same university as there is evidence that student mental wellbeing varies across

procedures and instruments (see Appendix).²⁹ Seven of the eight studies included medical students — reflecting the concern among medical educators about the impact of the medical training program on future practitioners and the assumption, discussed earlier, that law is a similarly high-pressure professional course. The first comparative study was conducted in 1955–56 in the United States (US); the most recent was conducted in Australia in 2013. All these studies used different measures of psychological distress. However, in each study where the results of medical students differed from those of law students, the law students recorded higher levels of psychological distress (or negative health symptoms) than the medical students. While this finding was often the focus of analysis and discussion, raising particular concerns about the psychological wellbeing of law students, it is important to note that fewer differences were observed between law students and non-medical student cohorts when such groups were included in the research.

The possibility that law students may experience higher rates of psychological distress than medical students was first suggested by a comparative study undertaken by Eron and Redmount at Yale University in the mid-1950s. In that study, graduate students in either their first or final year of medicine, nursing or law were sequentially recruited and assessed using an instrument called the Sarason-Mandler Scale of General Anxiety. The law students reported a higher mean score on that scale than the medical students. However, the law students' mean score was not significantly different from the nursing students' mean score.³⁰

Similar findings were reported by the second US study, undertaken by Heins and colleagues at the University of Arizona in 1980–81. Using non-standardised measures of stress, there were no significant differences in the mean total stress scores (across four subscales) of the medical and law student cohorts.³¹ However, the law students recorded higher mean scores than medical students on two of the four stress subscales, and the law students' mean scores were not significantly lower than the medical students' scores on any of the subscales. When law students' scores were compared to the two other graduate cohorts included in the study, the law students' overall mean stress score was higher than the chemistry students' mean score, but similar to the overall mean score of the psychology students.³² A follow-up study at the University of Arizona used more standardised measures to collect data from law and medicine students. However, no other cohorts were included in the later study. Shanfield and Benjamin found that law students reported higher mean scores than medical

institutions — see Sheldon and Krieger, 'Negative Effects of Legal Education', above n 10; Eisenberg, Hunt and Speer, above n 16. For this reason, only studies that compare law students with other student cohorts attending the same university are included in this review.

²⁹ Note that law and non-law cohorts were not always recruited in the same year in these studies.

³⁰ There were also no significant differences between the anxiety levels of first year and final year students in any of the three programs studied: Leonard D Eron and Robert S Redmount, 'The Effect of Legal Education on Attitudes' (1957) 9 *Journal of Legal Education* 431, 435.

³¹ Marilyn Heins, Shirley Nickols Fahey and Roger C Henderson, 'Law Students and Medical Students: A Comparison of Perceived Stress' (1983) 33 *Journal of Legal Education* 51.

³² As a result, the authors conclude that 'perceived stress appears to be related to doing graduate work, whatever the program': Marilyn Heins, Shirley Nickols Fahey and Lisa I Leiden, 'Perceived Stress in Medical, Law, and Graduate Students' (1984) 59(3) *Journal of Medical Education* 169, 178.

students on each of the three instruments used.³³ That finding was supported by a small study of law and medical students undertaken at the University of New Mexico in the mid-1980s.³⁴ Where differences between the cohorts were statistically significant, law students recorded higher mean scores on negative measures than the medical students.³⁵

The pre-1990 US studies all collected and analysed data on psychological distress among graduate law students, using medicine and other graduate cohorts as comparators. However, the more recent comparative studies have been undertaken in Canada, the UK and Australia and they investigate psychological distress levels of students studying law or medicine at the undergraduate (Bachelor) level, rather than the graduate (Master) level. Interestingly, the same pattern — that law students report even higher levels of psychological distress than medical students — is evident in the findings, notwithstanding the different level of study. For example, in the research undertaken by Helmers and colleagues at McGill University in Canada, undergraduate medical students scored better than the undergraduate law students on several of the measured dimensions of mental wellbeing, while the law students did not have significantly better mean scores than the medical students on any dimension.³⁶ However, the average scores of postgraduate students enrolled in biochemistry, pharmacology and physiology departments (analysed jointly as a third cohort) were not significantly different from the law students' scores.³⁷

Similarly, in the Australian study by Leahy and colleagues investigating levels of psychological distress among students enrolled in undergraduate medicine, law, psychology or mechanical engineering,³⁸ the law students' mean score on an instrument called the Kessler-10 was higher than the mean scores of the medicine and psychology students, but not significantly different from the mean score of the mechanical engineering students.³⁹ Finally, the most recent comparative study, undertaken with undergraduates in Western Australia, found that law students' mean scores on anxiety and depression measures were higher than the mean scores of psychology students.⁴⁰ In line with Leahy et al's hypothesis, it may be that psychology and medical students enjoy higher levels of mental wellbeing than students in law and other non-health-related disciplines.

³³ Stephen B Shanfield and G Andrew H Benjamin, 'Psychiatric Distress in Law Students' (1985) 35 *Journal of Legal Education* 65, used the Brief Symptom Inventory, the Beck Depression Inventory and the Multiple Affect Adjective Checklist.

³⁴ Robert Kellner, Roger J Wiggins and Dorothy Pathak, 'Distress in Medical and Law Students' (1986) 27(3) *Comprehensive Psychiatry* 220.

³⁵ *Ibid* 221.

³⁶ Karin F Helmers et al, 'Stress and Depressed Mood in Medical Students, Law Students, and Graduate Students at McGill University' (1997) 72(8) *Academic Medicine* 708.

³⁷ *Ibid* 712.

³⁸ Catherine M Leahy et al, 'Distress Levels and Self-reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students: Cross-sectional Study' (2010) 44 (7) *Australian & New Zealand Journal of Psychiatry* 608.

³⁹ Although the authors note that the effect size was small ($d = 0.30$) for the difference in means for law students and medicine/psychology students: *ibid* 611.

⁴⁰ Natalie Skead and Shane L Rogers, 'Do Law Students Stand Apart from other University Students in Their Quest for Mental Health: A Comparative Study on Wellbeing and Associated Behaviors in Law and Psychology Students' (2015) *International Journal of Law and Psychiatry* (forthcoming).

Cumulatively, these studies suggest — cautiously, given the small number and the age of some of the studies — that law students at both undergraduate and graduate levels experience similar or higher levels of psychological distress when compared with medical students. Undergraduate law students may also experience higher levels of psychological distress than undergraduate psychology students. These findings in turn suggest that legal education — and, perhaps, training students to ‘think like a lawyer’ — may have negative psychological impacts. However, the possibility that students in academic programs other than medicine or psychology may experience levels of psychological distress similar to those reported by law students has not been fully explored. In other words, it is not known whether law students are at higher risk of experiencing psychological distress than students in a range of other programs. This is unfortunate, especially considering that a number of the non-medical student cohorts included in the earlier studies reported levels of psychological distress similar to the law students’ scores. The following analyses address that gap.

III Method

A Data Collection and Sample Characteristics

The analyses reported here draw on data collected through a survey of student wellbeing conducted in 2013 at The University of Melbourne, Australia.⁴¹ Six faculties and graduate schools participated, ensuring that the sample included a mix of students undertaking professional and general academic programs at both undergraduate (Bachelor) and postgraduate (Master) levels.⁴² An anonymous, online survey⁴³ was administered in each faculty or school between April and August 2013 at a time designed to avoid high assessment loads.⁴⁴ The survey included the 21-item DASS (‘DASS-21’) as a measure of negative mental health or psychological distress. The DASS is widely used for research and screening purposes,⁴⁵ and contains three independent subscales that assess the severity of symptoms associated with states of depression, anxiety and stress respectively.⁴⁶ Depressive symptoms include low mood, pessimism and an inability to become interested in activities, while anxiety symptoms include fear and a sense of panic or

⁴¹ The research was approved by the relevant University Human Research Ethics Committee (#1239160). Further information about the design and administration of the 2013 study is provided in Larcombe et al, above n 25.

⁴² At the study site, most entry-to-profession courses are only offered at the Master (postgraduate) level. For this reason, both study level and field of study were investigated (as discussed below).

⁴³ The survey used in this study was adapted from the Student Wellbeing and Course Experience Survey developed by Larcombe and colleagues: see Larcombe and Fethers, above n 1. The survey can be provided on request.

⁴⁴ Further details on participant characteristics and data collection methods are reported in Larcombe et al, above n 25.

⁴⁵ An overview of the DASS and its uses is provided by the scale developers, Lovibond and Lovibond: Psychology Foundation of Australia, *Overview of the DASS and its Uses* (2014) Depression Anxiety Stress Scales (DASS) <<http://www2.psy.unsw.edu.au/dass/over.htm>>; see also Psychology Foundation of Australia, *DASS FAQ (Frequently Asked Questions)* (2014) Depression Anxiety Stress Scales (DASS) <<http://www2.psy.unsw.edu.au/dass/DASSFAQ.htm>>.

⁴⁶ Lovibond and Lovibond, above n 26.

apprehension. Anxiety symptoms are distinguished in the DASS from (unhealthy) stress symptoms such as irritability, intolerance of delays or interruptions, and overreacting or becoming upset easily.⁴⁷ Scores on the DASS scales can be categorised into one of five severity categories — normal, mild, moderate, severe and extremely severe.⁴⁸ These are not clinical classifications; the categories only indicate the level of severity of relevant symptoms within a defined timeframe.

For inclusion in data analysis, respondents needed to complete at least one DASS scale in full and to answer at least 75% of all survey questions (excluding text options).⁴⁹ For the purposes of the modelling reported here, only surveys with complete DASS scores, degree type and year level information were included. By these criteria, 4,711 responses were included, comprising:

- 333 Law students (Juris Doctor ('JD') – Masters only)
- 485 Engineering students (14% Undergraduates and 86% Masters students)
- 308 Veterinary Medicine students (24% Undergraduates and 76% Masters students)
- 1,715 Science students (95% Undergraduates and 5% Masters students)
- 1,244 Bachelor of Arts (BA) students (Undergraduates only)
- 626 Bachelor of Biomedicine students (Undergraduates only).

Undergraduates studying in Arts, Biomedicine and Science were drawn from all year levels of the Bachelor programs, while undergraduates in Engineering and Veterinary Medicine had all completed at least two years of university study. The Masters students had all completed at least three years of undergraduate study and were drawn from all year levels of their programs.

Most study participants were drawn from undergraduate Science and the Bachelor of Arts, reflecting the high student numbers in these programs. The smaller number of respondents in the JD and Veterinary Medicine reflects the smaller populations in these programs. The demographic characteristics of the participating sample were compared with course population data where available. Analyses of the law sample showed that first-year students and female students were overrepresented: 49% of the sample was enrolled in the first year JD, which

⁴⁷ On the construct validity of the three scales included in the DASS-21, see Julie D Henry and John R Crawford, 'The Short-Form Version of the Depression Anxiety Stress Scales (DASS-21): Construct Validity and Normative Data in a Large Non-clinical Sample' (2005) 44(2) *British Journal of Clinical Psychology* 227; Martin M Antony et al, 'Psychometric Properties of the 42-Item and 21-Item Versions of the Depression Anxiety Stress Scales in Clinical Groups and a Community Sample' (1998) 10(2) *Psychological Assessment* 176. Normative data for a non-clinical sample of the general Australian population is reported by John Crawford et al, 'Percentile Norms and Accompanying Interval Estimates from an Australian General Adult Population Sample for Self-Report Mood Scales (BAI, BDI, CRSD, CES-D, DASS, DASS-21, STAI-X, STAI-Y, SRDS, and SRAS)' (2011) 46 *Australian Psychologist* 3.

⁴⁸ Lovibond and Lovibond, above n 26.

⁴⁹ To ensure that participation in the survey did not contribute to student psychological distress, no questions were compulsory.

comprised 43% of the population, and 63% of the sample were female compared with 54% of the population.⁵⁰ There were no other substantial differences between the sample and the JD population. The participation rate for law students was 44%, which is strong for a voluntary, online survey investigating law student wellbeing.⁵¹

As law is only taught as a Master-level JD program at the research site, the law students varied in some respects from the non-law respondent sample. Notably, the law students were older, on average, and more likely to be living independently. About 76% of non-law respondents were aged 21 years or less compared with 9% of the law sample. Sixty-one per cent of the non-law group were living with parents, other family members or in a residential college, compared with 45% of the law students. Twenty per cent of the non-law sample spoke a language other than English at home, compared to only 8% of the law sample. Similar proportions of non-law (30%) and law respondents (35%) reported working in paid employment 10 or more hours per week during semester. However, only 17% of the law students were providing care for family members for five or more hours per week compared to 28% of the non-law sample. Study commitments also varied: 41% of the non-law students compared to 18% of the law students reported studying outside of class time for fewer than 10 hours per week.

⁵⁰ Female overrepresentation in health and wellbeing surveys with university students is common — see, eg, Josephine G W S Wong et al, ‘Web-based Survey of Depression, Anxiety and Stress in First-Year Tertiary Education Students in Hong Kong’ (2006) 40(9) *Australian & New Zealand Journal of Psychiatry* 777, where 63% of the respondents were female; in the study reported by Stallman, above n 16, 65% of respondents were female; in the study reported by Said, Kyri and Bowman, above n 16, 66% of respondents were female.

⁵¹ For example, the response rate for Skead and Rogers’ study was just over 20% of eligible law students: see Skead and Rogers, above n 1.

Table 1: Socio-demographic characteristics of the respondent sample, law and non-law students

		Law		Non-Law	
Age (years)	21 or less	30	9.1%	3307	75.7%
	22–24	227	68.8%	713	16.3%
	25+	73	22.1%	351	8.0%
	Total	330	100.0%	4371	100.0%
Gender	Male	123	37.0%	1805	41.4%
	Female	208	62.7%	2538	58.3%
	Other	1	0.3%	14	0.3%
	Total	332	100.0%	4357	100.0%
Living arrangements	Not Supported	184	55.4%	1719	39.3%
	Supported (College/Parents)	148	44.6%	2650	60.7%
	Total	332	100.0%	4369	100.0%
Language spoken at home	English	307	92.5%	3502	80.3%
	Other	25	7.5%	859	19.7%
	Total	332	100.0%	4361	100.0%
Study outside class (hours per week)	4 or less	9	2.7%	547	12.5%
	5–9	50	15.1%	1234	28.2%
	10–14	119	35.8%	1242	28.4%
	15–19	77	23.2%	709	16.2%
	20+	77	23.2%	639	14.6%
	Total	332	100.0%	4371	100.0%
Paid employment (hours per week)	4 or less	118	35.9%	2248	51.9%
	5–9	97	29.5%	801	18.5%
	10–14	64	19.5%	646	14.9%
	15–19	34	10.3%	389	9.0%
	20+	16	4.9%	248	5.7%
	Total	329	100.0%	4332	100.0%
Care for family (hours per week)	4 or less	269	82.8%	3107	71.7%
	5–9	37	11.4%	720	16.6%
	10–14	7	2.2%	267	6.2%
	15–19	6	1.8%	121	2.8%
	20+	6	1.8%	117	2.7%
	Total	325	100.0%	4332	100.0%

B *Analyses*

As explained, the analyses reported here aimed to test the hypothesis that law students experience higher rates of psychological distress than university students in other fields of study or academic disciplines. The outcomes of interest were:

- (a) differences in the mean DASS scores reported by each non-law cohort, taking law students' results as a baseline; and
- (b) the non-law cohorts' odds ratios of reporting results in the severe or extremely severe (severe+) range for each of the DASS scales, again taking law students as a baseline.⁵²

The non-law combined cohort ($n = 4,378$) was investigated and compared with the law students ($n = 333$) in two ways. First, non-law students were grouped by field of study (or disciplinary field) — arts, biomedicine, engineering, science or veterinary medicine. Second, given that the law students in this research were all graduates, the non-law students were grouped by study level — undergraduate first year, undergraduate second or subsequent year, or postgraduate (non-law). As disciplinary field and study level are not independent variables they are analysed separately. In addition, a model is reported that compared the law and non-law students' means and odds ratios when the non-law students are treated as a single group.

In the following sections we report the differences in mean scores on the DASS scales for law and non-law students, with a 95% confidence interval (the upper and lower limits for the true mean difference) and a *P*-value for a test of the null hypothesis that the true mean difference is zero (that is, there is no difference between the true means for the two groups). This gives us a general indication of whether law students are experiencing higher levels of distress on average than the non-law student groups. As mentioned above, DASS symptom levels in the severe or extremely severe range are of particular concern. Consequently, we report the estimated odds ratios for non-law students of reporting severe+ scores on each of the DASS scales, again taking law as a baseline, with a 95% confidence interval (the upper and lower limits for the true odds ratio) and a *P*-value for a test of the null hypothesis that the true odds ratio is one (that is, there is no difference between the severe+ odds for the two groups). First, however, we report the DASS results of the law students, placing them in the context of previous published studies with law students and general population samples using the same instrument.

⁵² Moderate and higher DASS levels have more commonly been investigated, see, eg, Wong et al, above n 50; Townes O'Brien, Tang and Hall, above n 1; Larcombe et al, 'LLB and JD Students', above n 1. However, the potential social, educational and health impacts of severe and extremely severe scores make it imperative to understand and redress these levels of distress among university students and the sample size in the present study made such analyses possible.

IV Levels of Psychological Distress Among Law Students

The severity of the law students' symptoms of psychological distress as measured by each of the three DASS scales is shown in Table 2. Importantly, for each scale, more than half of the law students reported symptom levels within the 'normal' range and approximately 70% of the results on each scale were in the 'normal' to 'mild' ranges. This is a useful reminder that not all law students experience high levels of psychological distress at all times during law school. However, approximately 30% of the results on each scale were in the moderate or higher severity categories. At these levels, symptoms are likely to interfere with concentration, sleep and other everyday activities and may also cause difficulties in social interactions and relationships.⁵³ Symptoms of psychological distress in the 'severe' or 'extremely severe' range have a number of health and social impacts. As shown in Table 2, severe+ anxiety was most common (16.8%) among the law students, followed by severe+ stress (13.2%) and severe+ depressive symptoms (12.3%). Given that the survey was conducted at a time of relatively low assessment loads for law students (weeks 2–4 of second semester), these levels of severe+ distress are of concern.⁵⁴

Table 2: Law students' DASS-21 results by symptom severity

Symptom level	Depression		Anxiety		Stress	
Normal	193	58.0%	195	58.6%	186	55.9%
Mild	46	13.8%	35	10.5%	50	15.0%
Moderate	53	15.9%	47	14.1%	53	15.9%
Severe	22	6.6%	25	7.5%	31	9.3%
Extremely severe	19	5.7%	31	9.3%	13	3.9%
Total	333	100.0%	333	100.0%	333	100.0%

The DASS-21 results of law students in the present study (Table 2) can be compared with the results obtained in three other published studies from Australian law schools:

- Townes O'Brien, Tang and Hall (2011)⁵⁵ investigated the DASS-21 levels of law students (n = 295) at the end of their first year studying at the Australian National University (ANU) in 2009–10.
- Bergin and Pakenham (2014)⁵⁶ reported recent DASS-21 results (depression and anxiety only) for law students attending three universities in south-east Queensland (n = 471).

⁵³ Tang and Ferguson, above n 1, 33, 49.

⁵⁴ The DASS cut-off for the severe and extremely severe category is set at the 95th percentile based on responses from normative population samples — that is, you would expect only 5% of the results to be in this range for each of the scales. See Lovibond and Lovibond, above n 26.

⁵⁵ Townes O'Brien, Tang and Hall, above n 1.

- Skead and Rogers collected data in 2013 on the DASS depression levels of law students (n = 206) attending the University of Western Australia (UWA).⁵⁷

As can be seen in Table 3, the proportions of law students reporting elevated DASS distress in the present study are very similar to those reported in the ANU study, but substantially lower than those reported in the Queensland and UWA studies.⁵⁸ This may indicate that the law students in the present study are experiencing lower rates of distress than some other law students in Australia, or the differences may reflect the survey timing and the different recruitment methods used in the other studies.⁵⁹

Table 3: DASS results from studies with Australian law students, per cent by symptom severity

Symptom level	Present study 2013 n = 333	ANU 2009-10 n = 295	QLD 2013 n = 471	UWA 2013 n = 206
DASS depressive symptoms (%)				
Normal	58.0	54.9	33.3	54.4
Mild	13.8	13.6	13.8	6.8
Moderate	15.9	18.8	23.1	20.8
Severe	6.6	4.7	11.0	10.2
Extremely severe	5.7	8.0	18.7	7.8
DASS anxiety symptoms (%)				
Normal	58.6	61.5	39.5	
Mild	10.5	8.0	6.6	
Moderate	14.1	14.6	20.4	
Severe	7.5	5.2	9.6	
Extremely severe	9.3	10.8	24.0	
DASS stress symptoms (%)				
Normal	55.9	67.1		
Mild	15.0	12.7		
Moderate	15.9	9.4		
Severe	9.3	7.0		
Extremely severe	3.9	3.8		

Table 4 compares the DASS results for law students in the present study with results obtained from general community samples. We used *t*-tests to compare our law students’ mean DASS scores with the DASS means for general population

⁵⁶ Bergin and Pakenham, above n 1.
⁵⁷ Skead and Rogers, above n 1. For a comparison of law and psychology students’ results on a range of measures, see Skead and Rogers, above n 40.
⁵⁸ The results from the present study, and the studies with ANU, UWA and Queensland law students can be contrasted with the DASS scores of students at the end of a Practical Legal Education course where 80–90% of DASS results were in the normal–mild range and only 6.6% of students recorded severe+ depression, 6.1% severe+ anxiety and 6.5% severe+ stress: see Tang and Ferguson, above n 1, 36.
⁵⁹ For example, the Queensland study may have attracted participation from a higher number of students experiencing psychological distress because it was conducted by a team of psychologists, rather than researchers based in the students’ home law school.

samples in Australia⁶⁰ found that the law students' mean scores were substantially higher than those recorded for Australian adults (all three *P*-values less than 0.001). The law students' mean scores were also between 0.9 and 2.7 points higher than those recorded for the 18–24 year olds (all three *P*-values less than 0.06) — an age group who typically report higher levels of psychological distress than older adults. These findings are consistent with previous studies finding that law students report higher rates of psychological distress than age-matched population samples.⁶¹

Table 4: DASS-21 mean scores for the law student sample and Australian community samples

	Sample size	DASS-21 mean score	
		Estimate	95% confidence interval
Depression			
Law students in present study	333	4.90	4.44, 5.37
Crawford et al 2011, 18–24 years	102	3.96	3.07, 4.85
Crawford et al 2011, all adults	497	2.57	2.23, 2.91
Anxiety			
Law students in present study	333	3.85	3.43, 4.27
Crawford et al 2011, 18–24 years	102	2.76	2.12, 3.40
Crawford et al 2011, all adults	497	1.74	1.49, 1.99
Stress			
Law students in present study	333	7.43	6.95, 7.90
Crawford et al 2011, 18–24 years	102	4.78	3.85, 5.71
Crawford et al 2011, all adults	497	3.99	3.62, 4.36

Note: The DASS scales are not standardised and, as a result, mean scores vary across the scales.

V Comparing DASS Results for Law and Non-Law Students

Are law students more likely than non-law students to report high levels of psychological distress? The prevalence and severity of DASS symptoms among non-law students were investigated and compared with the law students' results in several ways. The symptom severity levels of the law and non-law students are reported in Table 5. It can be seen that the proportions reporting elevated distress levels are very similar, notwithstanding the different characteristics of the law and non-law samples described earlier.

⁶⁰ Crawford et al, above n 47.

⁶¹ These findings are consistent with those of Townes O'Brien, Tang and Hall, above n 1, and Bergin and Pakenham, above n 1, who also report that law students' DASS results are substantially higher than those reported by Crawford et al, *ibid*.

Table 5: Law and non-law students’ DASS-21 results, per cent by symptom severity

Symptom level	Depression		Anxiety		Stress	
	Law n = 333	Non-law n = 4378	Law n = 333	Non-law n = 4379	Law n = 333	Non-law n = 4378
Normal	58.0	57.0	58.6	56.3	55.9	62.3
Mild	13.8	12.4	10.5	8.3	15.0	12.3
Moderate	15.9	17.4	14.1	17.3	15.9	12.7
Severe	6.6	6.3	7.5	6.8	9.3	9.5
Extremely severe	5.7	6.9	9.3	11.3	3.9	3.2

The highest symptom severity category across all three DASS subscales was also investigated for each respondent. Given that the DASS-21 measures three distinct forms of distress, this measure (‘Highest DASS category across all scales’) provides an important indication of the prevalence of elevated distress across the sample. This is shown for law and non-law students in Table 6 and, notably, the proportions in each category are again very similar. Just over half of each group was in the normal or mild range across all three scales. However, 27% of the law students and 26% of the non-law students reported symptom levels in the severe or extremely severe range on one or more of the DASS scales (Table 6).

Table 6: Highest DASS symptom category across all three subscales, law and non-law students

Highest DASS category*	Law		Non-Law	
	Estimate (%)	95% CI† (%)	Estimate (%)	95% CI† (%)
Normal or mild	51.7	46.1, 57.1	52.3	50.8, 53.8
Moderate	21.6	17.3, 26.4	21.9	20.6, 2.1
Severe or extremely severe	26.7	22.0, 31.8	25.9	24.6, 27.2

* Highest category across all three DASS scales.
 † CI = confidence interval.

A Mean Scores on the DASS Scales: Law and Non-Law Students

Differences in the DASS mean scores of the law and non-law students are reported by disciplinary field (Table 7) and by study level (Table 8). As these results show, there are few statistically significant differences ($p < 0.05$) in the DASS mean scores when the law students’ results are compared with each of the other groups. On the DASS depression scale, the largest mean difference is for the Bachelor of Arts students whose mean score is almost one unit higher (+0.98) than the law students’ mean of 4.9 ($p < 0.001$). Similarly, the Bachelor of Arts students’ mean anxiety score is substantially higher (+0.8) than the law students’ score of 3.85 ($p = 0.001$). The mean scores for students in other non-law disciplinary fields were

not statistically different from the law students' means on either the depression or anxiety scales (Table 7). When the non-law students were grouped by study level, their mean scores on the depression or anxiety scales were not statistically different from the law students' means (all *P*-values greater than 0.1, Table 8).

There is more variation in the mean scores for DASS stress. When non-law students are grouped by disciplinary field, biomedicine, engineering and science students report substantially less stress on average than the law students (estimates from -1.16 to -1.43, Table 8). However, veterinary medicine students report substantially more stress on average than the law students (+1.1). When non-law students are grouped by study level, the first-year undergraduate students report less DASS stress on average than law students (-1.16). When the non-law students are treated as a combined cohort (model 2, Table 7), the differences in mean scores for DASS depression or anxiety are small but the DASS stress mean score for non-law students is substantially lower than the law students' mean score (-0.69, $p = 0.007$).

Table 7: Differences in DASS-21 mean scores by disciplinary field

		Difference from Law mean – disciplinary field								
		Depression (Law mean = 4.90)			Anxiety (Law mean = 3.85)			Stress (Law mean = 7.43)		
Model	Cohort	Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value
1	Bachelor of Arts	0.98	0.43, 1.53	<0.001	0.81	0.32, 1.29	0.001	0.05	-0.49, 0.59	0.851
	Biomedicine	-0.13	-0.73, 0.48	0.683	-0.25	-0.79, 0.28	0.354	-1.16	-1.75, -0.56	<0.001
	Engineering	-0.59	-1.23, 0.04	0.068	-0.09	0.65, 0.47	0.747	-1.43	-2.06, -0.81	<0.001
	Science	-0.06	-0.60, 0.47	0.822	0.02	-0.45, 0.49	0.930	-1.17	-1.70, -0.64	<0.001
	Vet	0.07	-0.64, 0.77	0.853	0.23	-0.39, 0.85	0.472	1.10	0.41, 1.80	0.002
2	Combined non-Law cohort	0.18	-0.33, 0.69	0.500	0.21	-0.24, 0.66	0.367	-0.69	-1.20, -0.18	0.007

Note: Model 1 includes disciplinary cohort as a six-level factor, and Model 2 includes disciplinary cohort as a two-level factor (law or non-law).

[†] CI = confidence interval.

Table 8: Differences in DASS-21 mean scores by study level

		Difference from Law mean – study level								
		Depression (Law mean = 4.90)			Anxiety (Law mean = 3.85)			Stress (Law mean = 7.43)		
Cohort		Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value
Non-Law postgrad		-0.42	-1.01, 0.17	0.163	-0.02	-0.54, 0.50	0.931	-0.57	-1.16, 0.01	0.056
Undergrad 1st year		0.12	-0.43, 0.66	0.680	0.03	-0.45, 0.51	0.900	-1.16	-1.70, -0.62	<0.001
Undergrad 2+ years		0.41	-0.12, 0.93	0.129	0.39	-0.08, 0.85	0.101	-0.45	-0.97, 0.07	0.093

[†] CI = confidence interval.

B *Odds of Reporting Severe+ DASS Scores: Law and Non-Law Students*

Are law students more likely than non-law students to report symptoms of psychological distress in the severe or extremely severe range? As shown in Table 9, the proportions of law students and non-law students recording severe or extremely severe symptom levels for each DASS scale are very similar, notwithstanding the different characteristics of the two samples.

Table 9: Percentage severe or extremely severe on each DASS scale, law and non-law students

	Law		Non-Law	
	Estimate (%)	95% CI [†]	Estimate (%)	95% CI [†]
Depression	12.3	9.0, 16.3	13.3	12.3, 14.3
Anxiety	16.8	13.0, 21.3	18.1	17.0, 19.3
Stress	13.2	9.8, 17.3	12.7	11.7, 13.7

[†] CI = confidence interval.

Taking law students' odds as a baseline, the odds ratios of recording severe+ DASS results were calculated for the non-law students when grouped first, by disciplinary field (Table 10) and second, by study level (Table 11). Again, the strongest effects are evident when the non-law students are grouped by disciplinary field.⁶² The odds of recording a severe+ DASS depression score were 1.6 times higher for Bachelor of Arts students than for law students ($p = 0.009$) and the odds of a severe+ DASS anxiety score were 1.4 times higher for the Bachelor of Arts students ($p = 0.041$): see Table 10. The odds of recording a severe+ DASS stress score were lower for the engineering students (OR = 0.64, $p = 0.049$) compared to the law students, but more than two times higher (OR = 2.04) for the veterinary medicine students compared to the law students ($p < 0.001$).

When the non-law students were investigated as a combined cohort there were no significant differences in the law and non-law students' odds of reporting a severe+ score for any of the DASS scales. These results suggest that law students do not have the highest risk for experiencing severe+ psychological distress when compared with students in diverse academic programs at both undergraduate and postgraduate level.

⁶² There were no significant differences between the odds of reporting severe+ DASS scores for law and non-law students when the non-law students are grouped by study level.

Table 10: Odds ratios of reporting severe+ psychological distress by disciplinary field

		Odds ratios with Law as baseline category								
		Depression			Anxiety			Stress		
Model [‡]	Cohort	Estimate	95% CI	<i>P</i> -value	Estimate	95% CI	<i>P</i> -value	Estimate	95% CI	<i>P</i> -value
1	Bachelor of Arts	1.61	1.13, 2.30	0.009	1.39	1.01, 1.91	0.041	1.30	0.92, 1.85	0.138
	Biomedicine	0.98	0.66, 1.48	0.938	0.83	0.58, 1.20	0.317	0.67	0.44, 1.02	0.060
	Engineering	0.73	0.47, 1.14	0.166	0.99	0.68, 1.44	0.965	0.64	0.41, 1.00	0.049
	Science	0.93	0.65, 1.34	0.713	0.99	0.72, 1.36	0.950	0.75	0.53, 1.07	0.113
	Vet	0.85	0.53, 1.39	0.527	1.25	0.84, 1.86	0.279	2.04	1.35, 3.08	<0.001
2	Combined non-Law cohort	1.09	0.78, 1.53	0.610	1.09	0.81, 1.47	0.560	0.96	0.69, 1.32	0.784

[†] CI = confidence interval.

[‡] Model 1 includes disciplinary cohort as a six level factor, and model 2 includes disciplinary cohort as a two level factor (Law or non-Law).

Table 11: Odds ratios of reporting severe+ psychological distress by study level

		Odds ratios with Law as baseline category								
		Depression			Anxiety			Stress		
		Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value	Estimate	95% CI [†]	<i>P</i> -value
	Non-Law postgrad	0.74	0.49, 1.11	0.145	1.02	0.72, 1.43	0.933	1.06	0.73, 1.55	0.748
	Undergrad 1st year	1.06	0.74, 1.52	0.762	0.94	0.68, 1.29	0.698	0.81	0.57, 1.17	0.261
	Undergrad 2+ years	1.24	0.87, 1.75	0.230	1.22	0.90, 1.65	0.210	1.01	0.72, 1.42	0.966

[†] CI = confidence interval.

VI Discussion

The present analysis was designed to investigate whether law students experience higher rates of psychological distress than their university peers. Most studies comparing law students with other university cohorts have selected medical students as comparators, assuming that medicine and law would be similarly challenging, entry-to-profession degrees, placing students under higher ‘pressure’ than other university courses. However, students in graduate nursing⁶³ and graduate psychology⁶⁴ programs have reported levels of psychological distress similar to graduate law students, while undergraduate engineering students⁶⁵ and postgraduate science students⁶⁶ have reported distress levels similar to undergraduate law students.⁶⁷ This suggests that law students may not be a particularly high risk cohort among their university peers in general. However, a number of the existing studies are now very dated and most used non-standardised measures of psychological distress. The study reported here provides up-to-date data on the psychological distress levels of university students in six academic disciplines, including law, using a well-validated measure of depression, anxiety and stress symptoms — the DASS-21. As the law students in this study were all enrolled in a postgraduate JD, study level and disciplinary field were investigated.

Our results show, consistent with earlier Australian and US studies, that law students experience high levels of psychological distress — substantially above those reported in community (non-clinical) samples. This confirms that efforts in recent years to redress and prevent law student distress are warranted. However, our analyses also suggest that, overall, law students are not substantially more distressed than students in a range of non-law fields of study. Notably, a similar proportion of our law students (27%) and non-law students (26%) recorded at least one DASS score in the severe or extremely severe range and there were no substantial differences in the odds of reporting severe+ DASS scores for law and non-law students. Further, while the law students reported a higher average score on the DASS stress scale than the combined non-law cohort, average scores on the depression and anxiety scales were similar for law students and the combined non-law cohort.

When the non-law students’ scores were analysed according to disciplinary field, law students were not at highest risk for any form of DASS distress. For DASS stress, the students in veterinary medicine recorded a higher mean score than the law students and their odds of recording a severe+ DASS stress score were two times higher than the law students’ odds. For DASS depression and DASS anxiety, the mean scores and also the odds for reporting severe+ scores were substantially higher for students enrolled in the Bachelor of Arts, compared with

⁶³ Eron and Redmount, above n 30.

⁶⁴ Heins, Fahey and Leiden, above n 32.

⁶⁵ Leahy et al, above n 38.

⁶⁶ Helmers et al, above n 36.

⁶⁷ Research at Melbourne Law School found no statistically significant difference between the DASS scores of law students in the JD (Masters) program and students in the LLB (undergraduate) program: see Larcombe et al, ‘LLB and JD Students’, above n 1.

the law students. Moreover, none of the non-law cohorts recorded substantially lower mean scores for DASS depression or DASS anxiety, and none of the non-law cohorts' odds ratios on these scales were substantially lower than the law students' odds of recording a severe+ score.

Only five comparator disciplines were included in this study, yet the results suggest that students in two of those five cohorts may be at higher risk than the law students of experiencing severe psychological distress. Our study cannot tell us whether non-law students from the included disciplines have always experienced high levels of psychological distress or whether these levels are a recent phenomenon. Moreover, the cross-sectional design of this study provides only a point-in-time snapshot; the results cannot speak to causality, only to associations and the strength of those associations. Further investigation of the association between students' distress levels and their field of study is needed. The findings of the present study may also be affected by the curriculum and teaching practices at the research site.⁶⁸ Further studies are needed comparing law and non-law students at a range of institutions with varying course structures and teaching and learning methods before it can be known whether the findings from this study would be replicated more widely.

However, the results of our present analyses are consistent with the previous comparative studies that suggest law students may not be at higher risk of experiencing psychological distress when compared with university cohorts other than medicine and psychology. Students from diverse academic programs have generally not been included in earlier studies of student distress, leaving untested the assumption that challenging, entry-to-profession degrees impose a higher burden of psychological distress on their (academically high-achieving) students.⁶⁹ The findings of the present analyses unsettle that assumption.

What are the implications for law schools? We suggest that our findings provide important guidance for law schools in working to minimise and respond to the high levels of psychological distress experienced by their students. Our results do not lessen that task: results from this study confirm that significant numbers of law students — one-in-four on our figures — are experiencing very high levels of psychological distress, at a time in the academic year with few assessment requirements. This confirms the need for law schools to better support students' mental wellbeing. However, the results of the present analyses indicate that 'being a university student' is the risk factor for high levels of psychological distress, rather than 'being a law student'. This suggests that explanations of law student distress that focus on 'thinking like a lawyer' and the 'lawyer's personality' may

⁶⁸ It is noted again that professional courses are only offered at postgraduate (Master) level at the University of Melbourne. While this assisted us to analyse associations between field of study and levels of psychological distress, it would be important to investigate student mental wellbeing in 'combined' programs — that is, where law students undertake another Bachelor degree in parallel with an LLB.

⁶⁹ While the present study was designed to investigate students' levels of psychological distress in undergraduate and postgraduate, general and professional, academic programs, participation was also based on the concerns of academic teachers within the programs who were placed and prepared to implement changes in response to the survey findings.

be too narrowly focused⁷⁰ and that other factors that are distinctive to legal education may have been weighted too strongly in explanations to date. To be clear: we are not saying that discipline-specific sources of stress are not impacting law students — including high competition for certain learning and employment opportunities as well as the technical, adversarial mode of thinking privileged in legal analysis.⁷¹ However, our findings suggest that there are also generic sources of stress impacting significant numbers of university students that no doubt ‘load’ onto discipline-specific sources of student stress within different types of programs. In this context, it will be important for law schools to address both the law-specific and general sources of university student stress — including financial stress, assessment expectations, the need to juggle course requirements with other commitments, and acquiring threshold academic skills.⁷²

As noted above, our results suggest that students in professional courses (such as engineering, law or veterinary medicine) are not at higher risk of experiencing very high levels of psychological distress when compared with students in general university programs (such as Arts, Biomedicine or Science). This finding must be approached cautiously until confirmed by subsequent studies. However, it suggests that the sources of psychological distress impacting university students are more fundamental than high workloads or academic expectations. In this context, it is positive that many of the programs and interventions developed or suggested to improve student wellbeing in law schools have been informed by the broader insights and understanding of basic and universal ‘psychological needs’ developed within the conceptual framework of SDT.⁷³ SDT posits that mental wellbeing is supported across various domains of life by ongoing experiences of competence, relatedness and autonomy; conversely, when such experiences are not available, wellbeing and intrinsic motivation will decline. In this way, the SDT framework provides an explanation of psychological distress that is unrelated to work volume and other ‘pressures’, meaning it can offer core principles and strategies to underpin mental wellbeing support in diverse learning environments and academic programs. The ways to create and ensure opportunities for students to experience competence, relatedness and autonomy will no doubt vary in different academic programs, but SDT predicts consistent benefits from supporting these core psychological ‘needs’. Recent innovations to law curricula and teaching practice based on SDT principles are yet to be evaluated, but our findings provide support for such approaches.

Given the consistently high levels of student distress recorded across disciplinary fields, our findings also suggest that efforts to address law student mental wellbeing would benefit from collaboration with academic educators in

⁷⁰ See, eg, Martin E P Seligman, Paul R Verkuil and Terry H Kang, ‘Why Lawyers Are Unhappy’ (2005) 10(1) *Deakin Law Review* 49; Daicoff, above n 8.

⁷¹ See, eg, Townes O’Brien, Tang and Hall, above n 1; Sheldon and Krieger, ‘Changes in Motivation’, above n 10; Sheldon and Krieger, ‘Negative Effects’, above n 10.

⁷² See Larcombe and Fethers, above n 1; Bergin and Pakenham, above n 1. The survey used in the present study also included a range of questions about academic and general sources of stress and each participating faculty/school received an analysis of the factors associated with severe+ DASS scores for students in their program. It is beyond the scope of this article to report those findings.

⁷³ See above nn 11–13.

other disciplines. If significant numbers of university students in a range of academic programs at both undergraduate and postgraduate levels experience high levels of psychological distress then it will be useful to embed SDT principles and to coordinate psychological literacy, help-seeking, stigma reduction, information provision and other mental wellbeing support measures across faculties and programs — particularly in institutions where the LLB is studied in parallel with another Bachelor degree. In this task, the research, strategies and practices developed in recent years to address the high levels of psychological distress in law schools may be directly applicable, or readily adaptable, to other academic programs and fields of study. In turn, law schools may be able to learn from and adapt the strategies adopted in medical education in recent years with promising results.⁷⁴

Finally, while student wellbeing strategies and services will always need to be developed and implemented ‘locally’ through the academic programs in which students are enrolled, local school-level implementation will also benefit from university-wide institutional support, resourcing and coordination. Particularly as so many law students in Australia study a vast range of ‘combined degrees’, coordination of measures to ensure a whole-of-university comprehensive and sustainable approach to student mental wellbeing is strongly indicated.

VII Conclusion

Mental health affects student achievement and graduate outcomes at all educational levels and is, thus, rightly an issue of concern for law schools and legal educators. A number of empirical studies have found that law students experience very high levels of psychological distress and the present study confirms this finding — a substantial proportion of law students at the research site reported very high levels of distress. However, the study found that a substantial proportion of students in each participating disciplinary cohort — whether at undergraduate or postgraduate level, in a professional or general program — recorded at least one DASS score in the severe or extremely severe range. Given the potential social, educational and health impacts of severe or extremely severe psychological distress, these results suggest that university students in a range of disciplines need additional measures and services to support mental wellbeing.

The present analyses have the benefit of drawing on recent data from a large sample to investigate whether law students are at higher risk of experiencing psychological distress than their university peers. The answer to this question is important for law schools and the wider legal profession as it sheds light on whether legal education per se imposes a distinct psychological burden on students. Our analyses show there were few differences when law students’ scores on the DASS-21 were compared with the scores of students studying arts, biomedicine, engineering, science and veterinary medicine. Indeed, among these

⁷⁴ See, eg, Stuart J Slavin et al, ‘Helping Medical Students and Residents Flourish: A Path to Transform Medical Education’ (2011) 86(11) *Academic Medicine* e15; Stuart J Slavin, Debra L Schindler and John T Chibnall, ‘Medical Student Mental Health 3.0: Improving Student Wellness Through Curricular Changes’ (2014) 89(4) *Academic Medicine* 573.

cohorts, law students were not at highest risk on any of the three DASS scales. This suggests that the law students in the present study are *not* experiencing more distress than their counterparts in other types of university courses — professional or general, at postgraduate and undergraduate levels.

Further research is needed to confirm this finding; however, the results of the present study are consistent with the limited number of earlier studies that compare the distress levels of law students with non-medical student cohorts. Our findings are also consistent with Krieger and Sheldon's recent conclusion that legal practitioners are no different from other people in relation to psychological needs:

it would appear that lawyers, and their teachers and employers, should banish any notions that law-trained people are somehow special in this important regard. In order to thrive we need the same authenticity, autonomy, close relationships, supportive teaching and supervision, altruistic values, and focus on self-understanding and growth that promotes thriving in others.⁷⁵

We suggest that this SDT-informed understanding of psychological needs can usefully inform actions taken by law schools to better support student wellbeing.

Our findings indicate that the sources of law student distress are unlikely to be exclusively related to the 'lawyer's personality' or 'thinking like a lawyer'. As a result, legal educators and law schools seeking to better support student mental wellbeing are likely to see enhanced outcomes from addressing both discipline-specific and generic factors that undermine students' psychological wellbeing. In this endeavour, collaboration across academic disciplines is indicated. As so many law students in Australia study law in combination with another academic program, it will be important to address students' psychological needs in each of their fields of study as well as the stressors from the combined program demands. University-wide coordination and resourcing of student wellbeing strategies and services is also likely to be beneficial.

The findings reported here indicate that high levels of psychological distress are not, or are no longer, only a problem for law students. It remains the case, however, that law schools and legal educators are well-placed to support students' mental wellbeing by embedding in the curriculum and associated programs strategies to reduce sources of psychological distress and build students' resilience. Reducing the high levels of psychological distress currently experienced by so many law students will benefit not only the students themselves, but also their families and friends, and their law school colleagues and teachers. Moreover, as Dammeyer and Nunez have identified, improving law student mental wellbeing has potential future benefits for the legal profession and the general community, given the positions of influence and responsibility that many law graduates go on to hold.⁷⁶ With that motivation, the present study makes a modest contribution to the task of better understanding law student psychological distress, which in turn will enable us to embed and instil effective strategies to support student mental wellbeing in law schools.

⁷⁵ Lawrence Krieger and Kennon Sheldon, 'What Makes Lawyers Happy?: A Data-driven Prescription to Redefine Professional Success' (2015) 83(2) *George Washington University Law Review* 554, 621.

⁷⁶ See Dammeyer and Nunez, above n 1, 56.

Appendix: Studies of University Student Psychological Distress – Law and Non-Law⁷⁷

1. Eron and Redmount (1957)

Leonard D Eron and Robert S Redmount, 'The Effect of Legal Education on Attitudes' (1957) 9 *Journal of Legal Education* 431–43.

Site: single university, US (Yale University).

Sample for analysis: 441 students.

Disciplines and study levels: postgraduate only, 227 law students — 134 first year and 93 final year — compared with freshman (first-year) and senior groups of medical (138) and nursing (76) students.

Instrument/s used: Sarason-Mandler Scale of General Anxiety.

Year/s of data collection: not specified, 1955–56.

Key findings on differences between law and other students:

The law students, both freshmen and seniors, obtain significantly higher scores on this scale than do the medical students, although they are not significantly different from the nursing students. There are no differences between freshmen and seniors in any of the three schools (435).

2. Heins et al (1983–84)

(A) Marilyn Heins, Shirley Nickols Fahey, Roger C Henderson, 'Law Students and Medical Students: A Comparison of Perceived Stress' (1983) 33 *Journal of Legal Education* 511–25.

Site: single university, US (University of Arizona).

Sample for analysis: 227 students.

Disciplines and study levels: postgraduate only, 105 law students at the start of their second year and medical students at either the beginning of second year (68) or the middle of their third (clinical) year (54).

Instrument/s used: Non-standardised measures for academic stress, time stress, fear-of-failing stress and societal stress.

Year/s of data collection: 1980–81.

Key findings on differences between law and other students: The study found that law students reported significantly more stress than medical students on the

⁷⁷ Note that three studies that compare the distress levels of law students with the distress levels of a non-law cohort are not included here because the non-law students were not recruited through the same study from the same institution/s as the law students, raising the possibility that institutional differences are responsible for any differences in reported distress rather than disciplinary field: Sheldon and Krieger, 'Changes in Motivation' above n 10; Kelk et al, above n 1; Roseanna McCleary and Evan L Zucker, 'Higher Trait- and State-Anxiety in Female Law Students than Male Law Students' (1991) 68(3c) *Psychological Reports* 1075.

academic stress and fear-of-failing subscales, but differences were not significant on the time and societal stress subscales. Moreover, there was no significant difference on total stress scores (across the four subscales) between the two groups.

- (B) Marilyn Heins, Shirley Nickols Fahey and Lisa I Leiden, 'Perceived Stress in Medical, Law, and Graduate Students' (1984) 59 *Journal of Medical Education* 169–79.

Site: Single university, US (University of Arizona).

Sample for analysis: 360 students.

Disciplines and study levels: 105 second year law students; 68 second year medical students and 54 third (clinical) year medical students; 61 psychology graduate students; 72 chemistry graduate students.

Instrument/s used: Non-standardised measures for academic stress, time stress, fear-of-failing stress and societal stress.

Year/s of data collection: 1980–81.

Key findings on differences between law and other students: Note that findings comparing the scores of law and medical students were reported in Heins, Fahey and Henderson (1983). In additional analyses, law students reported significantly higher total stress scores than chemistry students, however law and psychology students' total stress scores could not be differentiated (175). The psychology students' mean scores were higher than the law students' means on three of the six stress subscales and lower on three. The chemistry students' mean scores were lower than the law students on all six subscales, however the difference was not always significant. The authors conclude that 'perceived stress appears to be related to doing graduate work, whatever the program' (178).

3. Shanfield and Benjamin (1985)

Stephen B Shanfield and G Andrew H Benjamin, 'Psychiatric Distress in Law Students' (1985) 35 *Journal of Legal Education* 65–75.

Site: single university, US (University of Arizona).

Sample for analysis: 494 students.

Disciplines and study levels: postgraduate only, 232 law students from all three years and 262 medical students from all four years.

Instrument/s used: Brief Symptom Inventory; Beck Depression Inventory; Multiple Affect Adjective Checklist.

Year/s of data collection: 1981–82.

Key findings on differences between law and other students: Law students reported higher scores than medical students on all subscales for all three instruments. The authors conclude that 'Most likely, differences in the learning environments account for the varying levels of distress. Law school appears to be less nurturant of students than medical school' (69).

4. Kellner, Wiggins and Pathak (1986)

Robert Kellner, Roger J Wiggins and Dorothy Pathak, 'Distress in Medical and Law Students' (1986) 27(3) *Comprehensive Psychiatry* 220–23.

Site: Single university, US (University of New Mexico).

Sample for analysis: 120 students.

Disciplines and study levels: all postgraduate; 60 law students (30 from first year and 30 from third year) and 60 medical students (30 from first year and 30 from third year).

Instrument/s used: Hopkins Symptom Checklist; Symptom Questionnaire.

Year/s of data collection: not specified, before 1986.

Key findings on differences between law and other students: Among the statistically significant findings, depressive symptoms were higher in law students than in the medical students while self-rated contentment was higher in the medical students than the law students. Anger-hostility and obsessive-compulsive scores were also higher for the law students.

5. Helmers et al (1997)

Karin F Helmers, Deborah Danoff, Yvonne Steinert, Marco Leyton and Simon N Young, 'Stress and Depressed Mood in Medical Students, Law Students, and Graduate Students at McGill University' (1997) 72(8) *Academic Medicine* 708–14.

Site: single university, Canada (McGill University).

Sample for analysis: 816 students.

Disciplines and study levels: Undergraduate law students (365), undergraduate medical students (357), postgraduates enrolled in (MS and PhD) biochemistry, pharmacology, and physiology departments (94).

Instrument/s used: Derogatis Stress Profile ('DSP') — 77 items.

Year/s data collected: 1994–95.

Key findings on differences between law and other students: The study found that medical students scored significantly better than the law students on many of the 11 dimensions/outcomes measured by the DSP survey. The law students did not have significantly better scores than the medical students on any subscale. 'The graduate students' scores were similar to those of the law students in most respects' (711). Referring to Heins et al, the authors note that '[t]he conclusion that law students are more stressed than medical students is consistent with the findings of a previous study' (712).

6. Singh, Hankins and Weinman (2004)

Gurminder Singh, Matthew Hankins and John A Weinman, 'Does medical school cause health anxiety and worry in medical students?' (2004) 38 *Medical Education* 479–81.

Site: single university, UK (London University).

Sample for analysis: 934 students.

Disciplines and study levels: all undergraduates in years 1-4 studying medicine (449), or English or Law (485). Note: the results of law students are not separately reported.

Instrument/s used: Health Anxiety Questionnaire; Anxious Thoughts Inventory.

Year/s of data collection: pre-2002.

Key findings on differences between law and other students: Medical students had significantly less health anxiety than the non-medical students and were also less worried (reported fewer anxious thoughts) than the control group (law and English students).

7. Leahy et al (2010)

Catherine M Leahy, Ray F Peterson, Ian G Wilson, Jonathan W Newbury, Anne L Tonkin and Deborah Turnbull, 'Distress Levels and Self-reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students: Cross-sectional Study' (2010) 44 (7) *Australian & New Zealand Journal of Psychiatry*, 608–15.

Site: single university, Australia (University of Adelaide).

Sample for analysis: 955 students.

Disciplines and study levels: all undergraduates, enrolled in Medicine (471), Psychology (83), Law (197) or Mechanical Engineering (204).

Instrument/s used: K10 — 10 items.

Year/s of data collection: 2007.

Key findings on differences between law and other students: The study found an overall statistically significant difference between the K10 means for the disciplines when a dichotomous variable was created consisting of health disciplines (Medicine mean = 21.23; Psychology mean = 20.77) and non-health disciplines (Law mean = 23.43; Mechanical Engineering mean = 23.14). On this basis, '[p]articipants from the non-health disciplines had significantly higher K10 means than participants from the health disciplines, although the effect size was small ($d = 0.30$)' (611). Eliminating year level within degree as a potential confounding factor did not markedly alter the distress level differences between the health and non-health disciplines (611). The authors concluded:

[t]he results from this research suggest that high distress levels may be a phenomenon spread across the tertiary student body rather than limited to medical students alone ... The disturbing factor from all these findings is not that one discipline may be comparatively more distressed than another, but that they all appear to be more distressed than age matched peers from the general population (613).

8. Skead and Rogers (2013)

Natalie K Skead and Shane L Rogers, 'Do Law Students Stand Apart from other University Students in Their Quest for Mental Health: A Comparative Study on Wellbeing and Associated Behaviors in Law and Psychology Students' (2015) *International Journal of Law and Psychiatry* (forthcoming).

Site: single university, Australia (University of Western Australia).

Sample for analysis: 188 students.

Disciplines and study levels: second- and third-year undergraduates from the LLB (94) and Psychology (94).

Instrument/s used: State-Trait Anxiety Inventory (Form Y); 14 depression subscale items from the Depression, Anxiety and Stress Scales (DASS).

Year/s of data collection: 2013.

Key findings on differences between law and other students: The study found that law students' mean scores on the anxiety and depression scales were significantly higher than the mean scores of the psychology students. The effect size was greater for anxiety than for depressive symptoms.

