



# Running to well-being: A comparative study on the impact of exercise on the physical and mental health of law and psychology students



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## ABSTRACT

Research indicates that, in comparison to other university students, law students are at greater risk of experiencing high levels of psychological distress. There is also a large body of literature supporting a general negative association between exercise and stress, anxiety and depression. However, we are not aware of any studies exploring the impact of exercise on the mental health of law students specifically. This article reports evidence of a negative association between exercise and psychological distress in 206 law and psychology students. Compared to psychology students, the law students not only reported greater psychological distress, but, in addition, there was a stronger association between their levels of distress and their levels of exercise. Based on the results of this study, we suggest a simple yet effective way law schools might support the mental health of their students.

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"I have always believed that exercise is not only a key to physical health but to peace of mind ... Exercise dissipates tension, and tension is the enemy of serenity"

[(Mandela, 1995)]

## 1. Introduction

There is an extensive body of literature confirming that law students report experiencing symptoms of high or very high levels of psychological distress (Kelk, Luscombe, Medlow, & Hickie, 2009). Indeed, while there is evidence that all university students experience psychological distress at rates higher than the general population (Larcombe, Finch, & Sore, 2015; Said, Kypri, & Bowman, 2013; Stallman, 2010), it has been suggested by some that law students experience higher levels of stress, anxiety and depression than other university students, including students undertaking other professional degrees (Leahy et al., 2010; Lester, England, & Antolak-Saper, 2011; Sheldon & Krieger, 2004; Townes O'Brien, Tang, & Hall, 2011; Skead & Rogers, 2015).

Suggested reasons for the particularly high incidence of psychological distress in law students are many and varied. They range from heavy workloads, the tendency for law to attract competitive students, the

adversarial nature of the discipline, the traditionally Socratic nature of law teaching, and the often highly competitive and largely unsupportive culture of law school (Skead & Rogers, 2014, 2015).

In recent comparative studies of law and psychology students in the same university, we found evidence of significantly higher levels of self-reported psychological distress in the law student participants compared to population norms, and compared to the psychology student participants (Skead & Rogers, 2014, 2015). These prior studies explored the association between various aspects of student behaviour and psychological distress. A significant difference between the behaviours of the law and psychology student participants was that the law student participants dedicated more time to university work (Skead & Rogers, 2015). In addition, the law student participants reported particularly high levels of external pressures (primarily related to the perceived competitiveness of the university environment) and internal pressures (typically related to the participants' perfectionistic tendencies) (Skead & Rogers, 2014). Consistent with existing scholarship, and relevant to the current study, we also found that for the law student participants, the self-reported frequency of exercise had a weak negative association (Pearson correlations varying around  $-.2$ ) with measures of student stress, anxiety and depression (Skead & Rogers, 2014). This negative association between exercise and psychological distress did not come as a surprise. It has long been accepted and recognised that exercise is an important part of keeping both physically and mentally healthy.

In 1899 renowned philosopher, psychologist and physician, William James, stated that 'our muscular vigor will ... always be needed to furnish the background of sanity, serenity and cheerfulness to life...' (James, 1899, p. 502). In the 120 years since, numerous studies have

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affirmed that exercise is associated with improved well-being. From the mid-1980s in particular the scholarship supporting this phenomenon has grown rapidly (Bray & Kwan, 2006; Brown, Ford, Burton, Marshall, & Dobson, 2005; Fox, 1999; Hamer, Stamatakis, & Steptoe, 2009; Morgan, 1985; North, McCullagh, & Tran, 1990; Peluso & Andrade, 2005; Penedo & Dahn, 2005), confirming that exercise can assist in combatting stress, anxiety and depression (Biddle & Mutrie, 2008, Chapter 9; Byrne & Byrne, 1993, p. 566; Craft & Landers, 1998; Fox, 1999, pp. 412–413; Mutrie, 2000; Taylor, 2000; ten Have, de Graaf, & Monshouwer, 2011).

Some research in this regard has involved large, population-based studies (De Moor, Beem, Stubbe, Boomsma, & De Geus, 2006; Hamer et al., 2009; Hassmén, Koivula, & Uutela, 2000; ten Have et al., 2011). For example, both De Moor et al. (2006) and Hamer et al. (2009) reported a negative association between the extent of exercise and psychological distress in samples of over nineteen thousand participants in European nations. Other studies have focused on particular sectors of the population (for example, Armstrong & Oomen-Early, 2009; Cameron & Hudson, 1986; Doyne, Chambless, & Beutler, 1983; Steptoe, Edwards, Moses, & Matthews, 1989; Sylvester, Mack, Busseri, Wilson, & Beauchamp, 2012).

A number of studies have confirmed the positive correlation between exercise and mental health in university students specifically (Arias-Palencia et al., 2015; Dhurup, 2012; Tyson, Wilson, Crone, Brailsford, & Laws, 2010; Molina-García, Castillo, & Queral, 2011). This includes specific types of university students, such as first year students (Bray & Kwan, 2006), nursing students (Hawker, 2012), and athletes and non-athletes (Armstrong & Oomen-Early, 2009). Despite the high levels of psychological distress reported to be associated with law school, we are not aware of any existing studies focusing on the impact of exercise on the mental health of law students.

While the precise reasons for the psychological benefits of exercise are not certain, several potential explanations have been suggested. These include the social interaction and mutual support resulting from participating in team sports or group exercise (Peluso & Andrade, 2005, p. 62); the improved mood, self-confidence and self-esteem resulting from engaging in challenging physical activity (Biddle & Mutrie, 2008, Chapter 8; North et al., 1990); and the distraction that physical activity provides from day-to-day stressors (Morgan, 1985). Other suggested reasons range from the sense of autonomy that comes from self-selecting the exercise and doing it voluntarily and solely in one's own interests and the importance of the effort expended in exercising to self-satisfaction, to the improved sense of relatedness created by engaging in physical activities with others (Deci & Ryan, 2002; Sylvester et al., 2012, p. 145).

Underlying all of these reasons is research that reveals a link between exercise and improved concentration and mood via physical mechanisms such as improved blood flow, facilitated release of healing hormones and inhibited release of degenerating hormones (Austin, 2014). Regardless of the precise reasons for the association, however, it now seems irrefutable that exercise can be effective in combatting stress, anxiety and depression.

It was with this research in mind that in 2015 the Law School at UWA introduced a free weekly 1-hour *Bootcamp for a Healthy Body and Mind* for all law students and staff ('*Bootcamp*'), in an effort to provide cheap and effective support for student well-being. In tandem with the *Bootcamp* and to fill the void in the research on the impact of exercise on the mental health of law students as a specific group of university students, we conducted an empirical comparative study on the association between exercise and mental health in law and psychology students. This article reports our findings and provides insight into:

- 1) The correlation between exercise and psychological well-being in law students; and
- 2) The comparative correlations between exercise and psychological well-being in law and psychology students.

## 2. The comparative study

### 2.1. Aims

The present study aims to investigate the correlation between self-reported levels of emotional and physical distress experienced by law and psychology students and self-reported frequency of exercise over the course of a university semester. The data we have gathered and analysed provides research-based guidance to both students and universities on simple, cheap and effective strategies to support student well-being.

### 2.2. Ethics approval

This study complied with the National Health and Medical Research Council of Australia's National Statement on Ethical Conduct in Human Research (2007). Institutional ethics approval for the study was obtained from the UWA Human Research Ethics Office before the study commenced.

### 2.3. Participants

Participants were 59 law students from UWA and 76 psychology students from Edith Cowan University ('ECU').<sup>1</sup> Twenty-two per cent of the law student participants were 22 years or younger compared with 31% of the psychology student participants and 13% of law student participants were over 30 years old compared with 53% of the psychology student participants. While all of the psychology student participants were in the first year of their psychology course, several had attended university previously and had a university qualification. The law student participants ranged from first to final years, with the majority being in the later years of their degree. Seventy per cent of the law student participants and 75% of the psychology student participants were female.<sup>2</sup>

### 2.4. Methodology and measures

Law and psychology students at UWA and ECU respectively were invited to participate in an online survey towards the end of semester 2, 2015. Participation was voluntary and anonymous, with no identifying information included in the data collection. All participants consented to being involved in the study. The data from the study is confidential and reported in this article in group-form only.

#### 2.4.1. Emotional distress

Participants were asked to rate how they had been feeling *emotionally* during the previous semester for a number of emotional adjectives (*happy, worried, calm, sad, confident, and afraid*) on a four-point scale (*not at all, a little bit, quite a bit, or a lot*). The responses for the positively worded adjectives (*happy, calm, and confident*) were reverse scored and a total score was obtained by averaging across items so that a higher overall score indicates greater emotional distress.

This brief measure of emotional distress was developed for prior research investigating the wellbeing of schoolchildren, parents, and teachers.<sup>3</sup> In that study additional data was presented from an ECU

<sup>1</sup> The reason for the survey using students from different institutions is that Natalie Skead is an Associate Professor in the Law School at The University of Western Australia and Shane Rogers is a Lecturer at Edith Cowan University. Both universities are located in Perth, Western Australia.

<sup>2</sup> Due to the disproportionate number of female participants, caution should be exercised in extending the findings of the survey to male law and psychology students.

<sup>3</sup> Rogers, S. L., Barlett, L., & Robinson, K. (2016). Investigating the impact of NAPLAN on student, parent and teacher emotional distress in independent schools, Australian Educational Researcher, 43(3), 327–343. DOI: 10.1007/s13384-016-0203-x.

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