Australian construction students' experiences in the pursuit of human capital through cadetships

Chris Brown
University of Technology, Sydney

This paper presents an assessment of suggestions in international research and media that the modern construction cadetship experience is exploitative and, on that basis, problematises the growing trend of work integrated learning (WIL) in the Australian construction industry. Field research, aligning with the methodologies of major studies in this field, was conducted to examine the experiences of some construction cadets enrolled in construction degrees in six Australian universities. The data related to student experience and remuneration were analysed within a Marxist-Polanyian dialectical framework. The results show there is limited consistency in construction students' experiences and education while participating in this WIL. This indicates that the construction industry lacks a regulated and collaboratively driven program for cadetships. The findings also identify causes and consequences of the high rates of burnout of this cohort that have already been established in the literature. From a neoclassical economics human capital theoretical perspective, this WIL can offer some benefits to construction students. However, given the widespread ad hoc and unstructured employment arrangements, construction cadets can be exploited in ways akin to undocumented and other precarious labour. The construction students whose experiences are the focus of this study have a limited knowledge of their rights and support networks and can be exposed to wage theft extracted under the guise of providing education and experience. While individualistic 'law and order' frameworks may help improve material conditions for particular WIL workers whose experiences can be brought to the attention of authorities, greater collectivisation of labour could be more effective in ensuring more propitious conditions for those in cadetships.

Keywords

construction cadets, neoclassical economics, precarious labour, wage theft, Marxist-Polanyian.

Introduction

In the context of labour markets shifting away from historically standard employment relationships (Lewchuk, 2017; Stanford, 2017), the application of neoclassical economics human capital theory is blurring the barrier between student and worker. One example of this shift is work integrated learning (WIL). It is an umbrella term which describes the integration of academic learning from higher education institutions with practical knowledge from the workplace, realised in arrangements such as internships, work placements or construction cadetships.

WIL in Australia appears to be at an all-time high (Grant-Smith & McDonald, 2016), a reflection of the so-called employability agenda (Moore, 2020). In 2009, the Australasian Survey of Student Engagement found that 34 per cent of Australia's university undergraduates were involved in WIL (Coates, 2009), while Interns Australia showed that this figure could be as high as 91 per cent, with some students taking up to three WIL placements in their time as undergraduates (Chen, McKenzie, Mannering, & Schields, 2015; Stewart, Owens, O'Higgins, & Hewitt, 2021). Some of the recent and substantial data collected to date by Universities Australia show that 555,403 WIL activities took place across Australia in 2017 (Universities Australia, 2019).

My own compilation and review of all Australian universities' curricula, course handbooks, and state-based admissions centre data, shows that in 2021, 19 Australian universities offered full-time undergraduate degrees involving construction or related fields. As of 2021, 14 of these undergraduate degrees were accredited by the Australian Institute of Builders (AIB, 2021). The total number of construction students enrolled in these programs was approximately 7000 local and international students. State-based admissions centre data (from UAC (New South Wales), QTAC (Queensland), SATAC (South Australia), TISC (Tasmania) and VTAC (Victoria)), show that there was a 1700 first semester intake across the degrees for 2021. At least 14 of the universities that taught construction required students to engage in work placements, preferably WIL, in order to graduate. The expectations for students could range from 30 days to 200 days. UAC admission data shows there were six universities in New South Wales (NSW) and the Australian

Capital Territory (ACT) that offered construction-related undergraduate degrees. These universities collected half of the national first year enrolments in 2021, with approximately 2800 students across all years of their degrees. So even using only 2021 data, we can see how widespread is the imperative for the cadetship. Existing quantitative studies of construction students indicate that over half of those worked within the industry as construction cadets while studying (Lingard, 2007).

There is little in the literature about the evolution of the Australian construction cadetship. However, understanding the historical context of how industry spawned the cadetship is valuable for appreciating its role in its current state. Working while learning has dominated the pedagogical motivation in construction-based fields since early European trade guilds (Maertz Jr, Stoeberl, & Marks, 2014). Stemming from these early foundations, an Australian state-based apprentice scheme was adopted from the British model in 1855. It has been subjected to few substantial modifications since then. For example, reforms in the 1970s merged state-based programmes into a national system and in 1985, legislation introduced the need for traineeships, which extended the training scheme to a wider range of occupations (Knight, 2012). During that period, Australian universities began to offer construction related degrees, many of which facilitated or required WIL in line with guidelines from professional bodies (Mills et al., 2012) - a mentality that is still pervasive in white-collar construction today. The shift is consistent with the neoliberal turn in the late 1970s that saw the introduction of WIL to professional industries outside of the once traditional health and legal domains, allowing WIL to become mainstream (Cannon & Arnold, 1998; McLennan & Keating, 2008) thereby setting the scene for the construction cadetship.

The construction cadetship in its current form is a full-time or part-time WIL job in a construction organisation, usually a contractor, providing accommodation for students to attend full-time undergraduate degrees in construction or similar fields during the semester. It is generally expected that cadets should work full-time during university holidays. The literature shows that due to informal recruitment processes, cadetship employment can also be on a contractual basis, pro-rata, or even casual (Forsythe, 2012).

Modern WIL, like construction cadetships, is supposed to be educational, regulated collaboratively by all stakeholders with the proper recognition of each party's interests through clear and consistent agreements, structures and planning (Flesher, Leach, & Westphal, 1996; Orrell, 2004). In some cases, especially in health and education fields, WIL arrangements can successfully meet these criteria and are a functional tripartite relationship (Stewart & Owens, 2013). However, the literature also suggests that WIL workers are young people in insecure working arrangements accompanied by minimal collectivism with limited social and legal protections. So, as a form of non-standard labour, WIL workers could be classified as part of the precariat, to use Guy Standing's (2011 [2016]) concept of precarious work. Indeed, recent media reports and research have documented young people's complaints of wage theft, exclusion, lack of recognition and poor edification during their WIL programmes in built environment fields (Chesters & Cuervo, 2019; Han, 2015; Lewchuk, 2017; Rodino-Colocino & Berberick, 2015; Tweedie & Ting, 2018). More systematic research on Australian construction students' work experiences has shown they are a cohort extremely susceptible to mental health and burnout issues (Lingard, 2007; 2012; Lingard, Yip, Rowlinson, & Kvan, 2007; Moore & Loosemore, 2014).

While the existing research into Australian building students' experiences shows they are prone to burnout, there has been little research on why burnout or depression are common, nor is there any deep understanding of specific experiences of construction students while they are at work within the construction industry as cadets. There have been calls to investigate the causes of construction student burnout and poor mental health in more depth (Lingard, 2007; 2012; Lingard, Pirzadeh, Zhang, & Turner, 2021). Baptiste (2001), on the other hand, has called for more specific research on the manifestations of human capital theory to education programmes and how these experiences can lead to wider economic inequities. The broader agenda on understanding contemporary industry driven WIL programmes in Australian higher education also implies a call for more detailed studies on the complexities of WIL (Rodino-Colocino & Berberick, 2015).

This research article is a response to such calls to address a major research gap. In doing so, I conducted surveys and semi-structured interviews with construction cadets to specifically assess their experiences in terms of growing practical experiences and the reward systems in place for that work. The focus is on six NSW and ACT construction undergraduate degrees that can have some of the country's most extensive requirements for work experience and which use the construction cadetship to meet these requisites of their education.

The data collected are discussed within a Marxist-Polanyian dialectical framework. It is a useful approach because it provides a comprehensive philosophical basis and economic framework to analyse the experiences of WIL by highlighting the drive for capitalist firms to maximise their extraction of 'surplus value' and the social consequences of that process in the urban economy (Obeng-Odoom, 2016). Based on the data collected, this paper highlights issues in the cadetship that, stemming from fundamental flaws in theory and policy, are illustrative of the broader problems inherent in WIL, even when the WIL is properly paid for. Construction cadets with a limited knowledge of their rights and available support networks can be exposed to wage theft, ad hoc and unstructured employment arrangements in ways akin to undocumented and other precarious labour. Sharing problems with other WIL, this paper finds that the construction cadetship can lead to the undermining of labour standards thereby increasing inequities of youth involved in WIL. This research uncovers the need for closer support to facilitate these opportunities for students in a safe, respectful way that recognises the work being contributed by students and ensures that WIL is relevant, structured and beneficial for the cadet. More broadly, while individualistic 'law and order' frameworks may help improve material conditions for particular WIL workers whose experiences can be brought to the attention of authorities, greater collectivisation of labour could be more effective in ensuring more propitious conditions for those in cadetships.

The rest of this paper is organised into four main sections. Firstly, in the introduction, the research problem is deconstructed on a conceptual level before providing a review of existing literature. Then, data collection methods are justified, before discussing these results. This paper concludes by presenting some implications of the findings for praxis.

Existing research

There is a broad consensus in the mainstream economics literature that human capital is a significant determinant of economic output (Becker, 1994; Borjas, 2019; Braunstein, 2012; Folbre, 2012). Of particular interest to labour economists and labour relations theorists is how the theory has correspondingly played an important role in justifying new forms of labour, spawned from the past three decades of global neoliberal policies (Fitzsimons, 2015; Obeng-Odoom, 2021; Stilwell, 2014). Appealing to neoliberals is one key aspiration of neoclassical human capital advocates, who contend that neither class, race, gender, religious identity, nor any identity matters in the labour market; only education matters. In this particular theory, education determines employability, increases the productivity of a worker and generates more earnings (Glaeser & Lu, 2018; Matherly & Tillman, 2015). At the macro level, neoclassical economics human capital theory, grounded in the notion that, 'the development of contemporary economies depends crucially on the knowledge, skills, and attitudes of their workers' (OECD, 1987 p. 69), is at the forefront of policies which govern an education system oriented towards economic growth, and hence now promote WIL (Baptiste, 2001). WIL as a result of human capital is especially pertinent in today's knowledge-driven economy (Burnazoglu, 2020; De la Fuente & Ciccone, 2003; Jackson & Bridgstock, 2021).

In the construction industry, existing research shows that professionals and universities can consider practical work experience to be a more important investment in human capital than broad-based theoretical knowledge (Adcox Jr, 2000; Moore & Plugge, 2006; Tener, 1996). The construction cadetship has become an informal steppingstone to receiving recognition from industry and can even be required to graduate from university. The existing research on construction cadetships can be divided into three main themes: business research, stakeholders research, and research on WIL. A short review of these interrelated themes provides a useful frame for this study and helps to define the paper's boundaries.

Business research on WIL tends to probe the nexus between profit maximisation and WIL. For example, Cannon and Arnold (1998, p. 2) suggest that firms use WIL because these workers 'provide them with inexpensive help, new ideas, and [create] a talent pool from which future full-time employees may be drawn'. Businesses have endorsed WIL because they

are dissatisfied with the quality of graduates' practical ability and knowledge base (Hauck, Allen, & Rondinelli, 2000; Tener, 1996), and although not strictly looking to profit from them in the immediate future, believe that general training will eventually lead to labour cost reductions and increased productivity throughout the industry (Moore & Plugge, 2008).

There are two strands of research from the perspective of universities. One is in favour of WIL being integrated into universities as a response to industry driven demands for graduate abilities and states that universities should play a central role in facilitating and enhancing WIL (Natoli, Jackling, Kaider, & Clark, 2013; Patrick et al., 2008). This literature generally claims pressures from industry should be addressed by reforming curricula (Hager, Pryor, & Bryant, 2003) to develop graduate attributes (McLennan & Keating, 2008) and employability skills (Holmes, 2001). The other strand is critical of these changes and attributes the decrease in a comprehensive and balanced education to the outsourcing of higher education to businesses (Obeng-Odoom, 2017; 2019; Stilwell, 2003a; 2003b). Of particular note in this debate are the practical and technical skills required of graduates, which perhaps cannot be fully developed in the period of a university degree and, it is claimed, should rather be developed by industry at its own cost (Holmes, 2001; Natoli et al., 2013).

The competitive pressures on universities due to globalisation are adding to the complexity of accreditations (Patil & Codner, 2007). Professional associations and bodies seek to regulate industry and education programmes and, therefore, have a vested interested in influencing WIL and educational structure (Obeng-Odoom, 2016; Obeng-Odoom, Olawore, & Ameyaw, 2011; Patrick et al., 2008). However, Patrick et al. (2008) claim that Australian professional bodies and associations are not active enough in establishing sustainable and supportive structures for WIL, and tend to allow industry and higher education institutions to dictate the programmes. Trade unions should also have responsibility for supporting the institutionalisation of WIL. Bateson (2013) notes that some unions are using internships to supplement their own workforce, which should indicate that unions support those in WIL. However, Schwartz (2013) claims that union support may not be widespread and the development of white collar unionism has not extended to include those in WIL. Schwartz attributes this to Perlin's (2011) notion that students, while working full-time jobs, still consider themselves to be students and see their employment as 'an educational experience', (Schwartz, 2013, p. 44). If workers do not see themselves as workers, then they are unlikely to seek workers' rights and entitlements (Choi et al., 2013).

Research that examines Australian construction students' experiences claims that this demographic often works hours longer than time spent at university and makes the point that this can hinder their ability to be engaged and fully develop their human capital through higher education (Lingard, 2007; 2012; Lingard et al., 2007). Studies suggest that construction students are more susceptible to burnout and other mental health related problems due to the complexity of managing pressures from such heavy workloads compounded with university. For example, Moore and Loosemore's (2014) study on Australian construction students built on Lingard's existing research to conclude that construction students suffer from substantially higher levels of burnout than comparative professional samples. Meanwhile in 2020, Loosemore, Lim, and Ilievski (2020) noted that depression in Australian construction, engineering and architecture students occurred at considerably higher rates than for other student groups.

For students seeking a cadetship, seeing their education through a human capital lens means the costs associated with the venture must be weighed against the potential for return. Students can perceive their cadetship as beneficial for self-development (Grant-Smith & McDonald, 2016) involving industry connections, potential permanent placement with the sponsoring companies, clarification of career choices, and an increase in self-esteem. Because of these perceived benefits, other parties involved in the WIL process often push the costs onto students (Lillie & Sippola, 2011; Moore & Plugge, 2006).

These considerations amplify, but do not address, the following question: Why are construction cadets at such high risk of burnout and poor mental health problems during their WIL?

Addressing the research question

This research question must be contextualised. At the heart of claims by neoclassical human capital theory proponents, is that labour markets are efficient in allocating labour in such a way that neither class nor any other identity matters (Darity et al, 2022; Folbre, 2012). Consistent with neoliberalism as an ideology (Stilwell, 2014), this view emphasises that only education matters. Cast in Karl Polanyi's (1944) notion of 'a market society', this view suggests labour is a commodity.

For Polanyi, a market society allows market relations and incentives to dominate all aspects of life, which has the effect of limiting human development, increasing inequality and can result in society's total annihilation (Polanyi, 1944, p. 76). By treating labour power as a commodity (Paton, 2010), subject to market forces, there will be ramifications for people because 'labour power cannot be shoved about, used indiscriminately or even left unused, without affecting the human individuals who happen to be the bearers of this peculiar commodity' (Polanyi, 1944, p. 76). In a similar vein, criticism of human capital theory's pedagogic implications comes from Baptiste (2001), who argues that restricting education to market tendencies causes pedagogic objectives that are not based on any philosophical or moral code. This makes the education apolitical, individualistic and thwarts its ability to alleviate social or economic inequality.

For Marxists, human capital theory moves the debate on labour away from that of a class based discussion, due to the methodological individualism underpinning the theory's neoclassical economic roots (Bowles & Gintis, 1975). Marxists claim the theory has further segmented the labour force by sanctioning economic inequity through a meritocratic mechanism, and is unfit to properly cater to the intricacies of modern society (Berry, 2014; Stilwell, 2014) as it does not 'prioritise well-being or an expansive human agency' (Walker, 2012, p. 387). The narrative is framed in the context that firms extract the maximum amount of surplus value from their workers, maximise the productive output of their workers enforce training targeted to the needs of the business in order to increase profits. Or, as Stilwell notes, 'absolute surplus value denotes surplus value obtained by lengthening the working day (or week). Relative surplus value denotes surplus value obtained by increasing the productivity and/or intensity of labour' (Stilwell, 2011, p. xx).

The Marxian theory of the circuit of capital offers insight as to why businesses aim to minimise costs related to labour power (Munro, 2022) and is based on the notion that the 'capitalist has two objects in view: in the first place, he wants to produce a use-value that has a value in exchange(...) and secondly, he desires to produce a commodity whose value shall be greater than the sum of the values of the commodities used in its production' (Marx, 1867, p. 131). In that process, the notion of exploitation is based on the extraction of surplus value by capitalist organisations. Surplus value is the value created by workers greater than their own labour costs, then appropriated by the capitalist as profit (Marx, 1867). Businesses aim to maximise this surplus value by reducing the costs of their labour, intensifying the amount of work by labour, and maximising the length of the working day through the disintegration of workers' rights and the 'nibbling and cribbling' of time (Marx, 1867, p. 167). Here, the relationship between the surplus value created by workers and wages is entirely dependent on the struggle and collectivisation of workers (Marx, 1844). However, the material, ideological, and institutional processes in a capitalist society alienate workers, and compel them to act individually rather than as a collective unit.

Method

Governed by this framework, and following several respected studies closely aligned to this present study (Ayarkwa, Dansoh, Adinyira, & Amoah, 2011; Grant-Smith & McDonald, 2015; McLennan & Keating, 2008; Moore & Plugge, 2006), surveys and interviews were designed to collect data from construction cadets studying full-time in construction degrees that promote or mandate industry experience. My own experience as a former cadet and the experiences of my PhD supervisors with extensive industry knowledge helped me to delimit my work.

The demography of students targeted in this research are in line with significant existing quantitative research on Australian construction students by Moore and Loosemore (2014) and Lingard (2007, 2012). Drilling deeper, the sampling was refined to focus only on students required to do mandatory

industry experience as part of their university degrees and who meet this need via the construction cadetship in the employ of Tier 2 contractors. The study was designed to minimise the burden on participants, an important ethical consideration to make for a demographic who are already documented to be consistently busy and exhausted (Moore & Loosemore, 2014). Sampling was also purposive in that only participants from a specific range of demographics based on predetermined criteria relevant to the research were invited to participate (Guest, Bunce, & Johnson, 2006; Patton, 2014).

From this point, I took three steps. First, university ethics approval to undertake research was sought and received. Next, a web-based survey was sent to construction students via the email accounts of lecturers in construction undergraduate programmes to the institutional email addresses of 250 students known to be working in industry as cadets. I received responses from 44 construction cadets across six NSW and ACT universities. An 18 per cent response rate appears low, but it is consistent with or even higher than previous studies (Loosemore et al., 2020). This commonly low response rate is, ironically, a reflection of pressures on student-workers which I set out to study (Nulty, 2008). Informed by, to compliment, and to fill in grey areas in the survey data, I conducted semi-structured interviews with a purposive sample of ten cadets who had completed the survey. Each of the semi structured interviews lasted for up to 45 minutes. The resulting data were later transcribed.

The survey employed was simple and easy to complete in under ten minutes, with features recommended as effective by Couper, Traugott, and Lamias (2001). Following a similar structure of questions utilised by Moore and Plugge (2006), the questions were close-ended and elicited answers from a five-point Likert scale. Using this design, the first section of the survey was focused on collecting data based on addressing the research aims, that revolves around understanding practical experience at work and remuneration. Initially it sought to interrogate the legal class of work by enquiring if cadets are doing work that matches the definitions provided by the Fair Work Ombudsman. Hence, questions determined if an annual salary was received, the type of work cadets were doing and if they felt that work directly benefited their project or company. Next, the survey sought to understand the level of education and training received during work and the integration with university. The final set of questions in part 1 of the survey sought to understand worker activities, wellbeing, respect, credit for work and responsibility experienced at work, to paint a holistic picture of a cadet's practical experiences in the workplace. The second section of the survey elicited answers about demographic characteristics.

Informed by data drawn from the surveys, semi-structured interviews were subsequently conducted with cadets who had responded to interviews. Semi-structured interviews were valuable as they allowed participants to be asked similar questions but within a flexible, informal framework (Dearnley, 2005). This technique encourages depth, complexity, allows new concepts to emerge (Drever, 1995) and is useful for forming a relationship with the participant where they may feel more comfortable disclosing personal information (Doody & Noonan, 2013). This was particularly useful when cadets were describing personal concepts like their remuneration or feelings towards working and other employees.

Respondents were enrolled full-time in undergraduate construction (or similar) degrees from six universities including the University of Technology Sydney, the University of Sydney, the University of New South Wales, Western Sydney University, the University of Canberra and the University of Newcastle. The highest proportion of respondents were enrolled at the University of Technology Sydney at 54 per cent, where the researcher is completing ongoing PhD research into the political economy of cadetships. All participants worked as cadets, the vast majority in medium sized construction contractors, especially Tier 2 contractors, with head offices in Sydney and Canberra. Eighteen per cent of survey respondents were female and 90 per cent were under the age of 26. Two of the interviewees identified as female, 8 identified as male. Nine were under the age of 26 and one was over the age of 26. 32 survey respondents worked on a permanent full-time ongoing basis and all interviewees worked permanent full-time.

The resulting data were analysed using the Attride-Stirling method (Attride-Stirling, 2001). By using this approach, the interview text data were first coded and dissected into manageable segments with the use of a basic coding framework on Nvivo software. This first step of coding the transcripts was based on a hypothesis derived from indications in the literature and by the theoretical framework informing the research problem. In this first process, the intention was to categorise the text based on any similarities or interests that the research objective dictated. Next, segments of the text were categorised into basic and organising themes, abstracting and refining the text through multiple readings. These themes were then arranged and the networks and patterns that had begun to take shape were analysed by taking each network in turn, describing its contents, and supporting the description with anecdotes. At this point, any underlying patterns and more intricate commonalities began to appear. The survey data were then revisited and reinterpreted through the themes derived from the interviews.

In terms of presenting the results as qualitative, numerical data from the surveys have been used to supplement the responses made during the interviews - a method supported by many prominent qualitative researchers (Becker, 1970; Erickson, 2007; Hammersley, 1992). According to Maxwell (2010), using this method can add depth and provide a more robust defence of the conclusions made, especially when results are political. In the case of this research, numerical data have been used, as recommended by Sandelowski, Voils, & Knafl 'to facilitate pattern recognition or otherwise to extract meaning from qualitative data, and verify interpretations' (2009, p. 210). It is important to note that using numbers in qualitative research has been done carefully, as the incorrect use of quantitative data can be misleading by inferring broad generalisations (Maxwell, 2010). So, the results in the next sections cannot be interpreted to represent cadets' experiences as a cohort, as the prominent lack of structure in industry and from universities means that each individual cadet's experiences can be unique and regional trends, university influences, and individual workplaces may influence results.

Why are construction cadets at such high risk of burnout and poor mental health problems during their WIL?

The following specific accounts of practical experiences explain why construction students are at such risk of burnout and mental health related problems (Lingard, 2007, 2012; Lingard et al., 2007; Loosemore et al., 2020; Moore & Loosemore, 2014). Overall, the organisational themes identified included learning, exclusion, harassment and conditions. The themes identified in the interviews, complemented by survey data, indicate that the lack of consistent structure or framework has enabled the cadetship to have limited 'integrated learning' which had extreme impacts on the practical experiences of cadets.

An example of the working conditions, a common theme discussed in the interviews, was described by a cadet, employed for less than one year:

> ***He would make me pick up a truck at 4 in the morning to go and pick up materials at 5:30 or 6... sometimes every day of the week. Then he'd expect me to drop off the materials, drop the truck off and then drive to work and work 8 hours in the office on top of what I'd already just done.***

This theme should be seen in the context that nine out of the ten cadets interviewed felt as if they were not being educated at work, and were 'just doing stuff others didn't want to do'. One cadet stated during the interview; 'I'm not being educated at work. If I'm stuck, they'll show me, like here's how to do a purchase order now go and do 50 of them and you'll be right.' Another cadet said regarding their education at work: 'they haven't given me any proper training or reading or anything like that. You're already pretty inundated with your work and wouldn't have time for anything like that.' It seemed that any knowledge developed by the cadets interviewed was typically through unstructured exposure when 'thrown in at the deep end'. Given employers are aware that WIL allows students to 'test the water', they might be consciously throwing cadets in at the deep end in order to test their grit (Grant-Smith & McDonald, 2016).

The lack of training and education should be viewed in parallel with the notion that cadets felt expected to do whatever miscellaneous tasks were asked of them. These duties varied from; 'filling the receptionist's position at the front desk while she was at lunch', spending hours per week escorting the directors to and from dinner and lunches or even 'cleaning the offices'.

It became apparent that this work was often at the expense of attending university, which potentially undermines the student's development of human capital. Much like Lingard's (2007; 2012) studies on construction students, the cadets interviewed in this research were not necessarily content

with this sacrifice, and many interviewees felt significant pressures trying to catch up on their studies, so had to spend 'entire weekends working on uni full-time' and struggled through 'lots of sleepless nights' to keep up:

> ***I definitely think uni has taken a backseat to my work. It's pretty dramatic. I mean they say uni comes first, but once you get in the industry you mean something to the business, I've got deadlines I've got meetings ... I was completely engrossed in uni, but now work comes first.***

While the neoclassical version of human capital sees labour markets as efficient in allocating labour, limiting the tasks students can do to menial tasks is not an efficient allocation of that labour, nor does it develop their knowledge or ability. Problems stemming from the inefficient allocation of labour were discussed by cadets, who as one cadet put it 'when you employ a cadet regardless of how old they are, or experienced, or what stage of the industry they're in, they're stuck as a cadet.' Another cadet summed up:

> ***It's expected for a cadet to go in at the bottom ... for two years at ten dollars per hour. You have to go and get coffees and that's pretty much across the board in my opinion. Someone in the second year who has got over the honeymoon period will most likely hate it.***

Another organisational theme that emerged was, of cadets surveyed, one in four felt that they were exposed to some form of discrimination while at work. The extent of harassment, discrimination and the consequences to the mental health of cadets became fully apparent during the interviews where a cadet provided an example of harassment from a construction director during their first year of employment:

> ***I was tired and fatigued and overworked and when you're not sleeping it's easy to make mistakes - he just started yelling. He'd always yell. For ages, I just took it and then I just thought no this isn't my fault, and we'd get in really big yelling arguments.***

Poorly structured reward systems causing burnout, overwork and exploitation

The myriad explanations above can help explain why cadets feel symptoms of burnout. To add insult to injury, cadets interviewed and surveyed also felt they were being underpaid for their labour, causing further emotional and social stress. Cadets generally felt the work they were doing directly contributed to the success of the company and, given the apparent lack of training should therefore qualify for minimum wage and industry specific entitlements (Stewart & Owens, 2013). At the time of data collection the minimum wage was $17.70 per hour over a full-time 38-hour working week (***Fair Work Act 2009***, Cth).

However, results from the survey, outlined in Figure 1, are at odds with the minimum standards, and show six of the 32 full-time employed respondents being paid below this legal minimum. Furthermore, an indication of the lack of remuneration structures, Figure 1 shows the large discrepancies between salaries, whereby cadets in their first, second and third year can be paid more than fourth year cadets, sometimes by up to more than $20 an hour seemingly contradicting the notion in neoclassical economics human capital theory that more investment in education and training yields higher wages. This sentiment was built on in the interviews and fourth year cadets were upset that pay scales were not defined, 'I can't afford to work and study in Sydney at this rate...I even know a guy in his second year who is paid ten grand more than me'.

For this wage theft to occur, the construction companies employing these cadets may be circumventing the applicable employment laws through pro-rata or part-time contracts, luring inexperienced and unsuspecting youth into the low-paid work, a ploy used by firms in other areas of non-standard labour (Rubery & Grimshaw, 2015). These low wages could also be attributed to the long hours which these cadets work as unpaid overtime.

Cadets seem to be working unpaid overtime as a form of wage theft. According to the Australian Bureau of Statistics (ABS), the average hours worked per week by employees in the construction industry is 37.8 hours per week, significantly higher compared to other industries (ABS, 2006, 2010). While the average working week for full-time cadets surveyed was 36.2 hours, results from the interviews confirm that cadets' working week can exceed this average. In the interviews, one cadet exclaimed, '[in the] last six months I've put a lot of hours in. I was starting at 8am and finishing [at] 8 or 9pm.'. These figures are significantly greater than the recommended maximum of 15 hours of weekly work before it starts to have detrimental impacts on students' emotional and psychological wellbeing (Curtis & Lucas, 2001).

Figure 2 shows comparative data of the 32 full-time cadets surveyed against the Australian national average working week in construction. It reveals that full-time cadets employed for more than 1 year, are likely to be working longer hours than the national average at approximately 44.9 hours per week. It should be kept in mind that these figures are during the semester

Figure 1: Cadets studying and working full-time cf. estimated hourly wage by year of enrolment

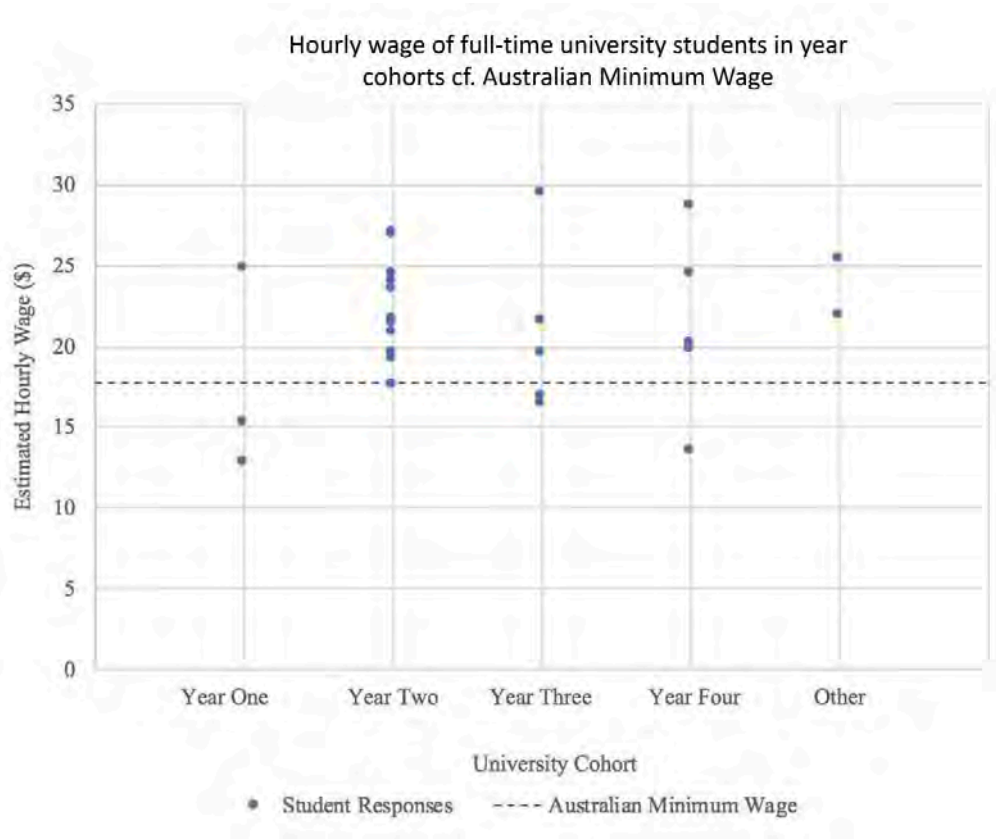
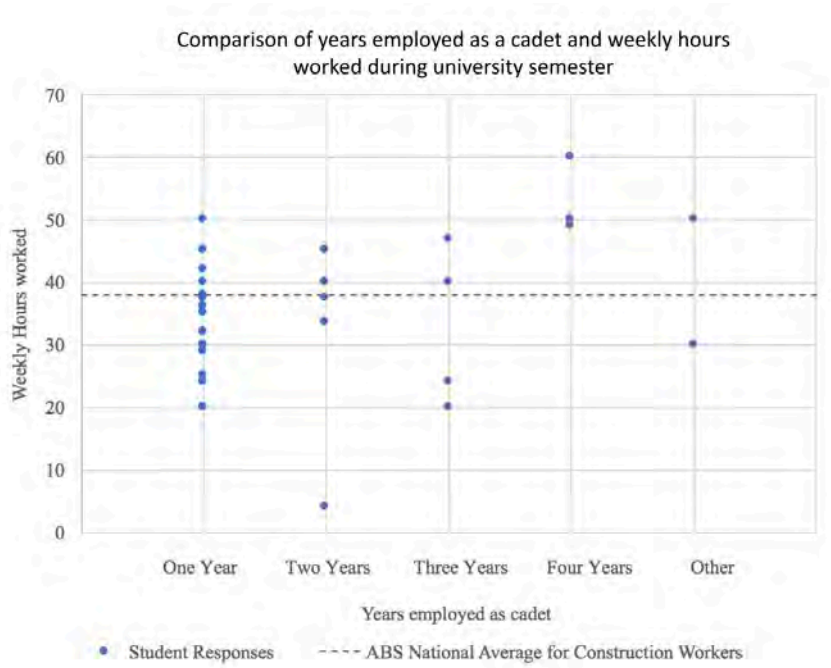


Figure 2: Comparison of years employed as a full-time cadet and weekly hours worked during the university semester.



while cadets have to balance their university commitments, as the survey results indicated these full-time cadets were usually at work approximately 4 days per week during the university semester. During the university holidays (up to 6 months of the year) cadets were expected to work a full 5 or 6 days per week. Figure 2 graphically represents a modern application of Marx's description in chapter 10 of Capital Vol 1., that capitalist organisations schedule work to start before and end after the legislated start and ends of the working day (Marx, 1867).

One positive case stands out. A single respondent in the interviews believed they were in a well-structured cadetship programme. The description they gave aligned with many important requirements of WIL outlined in the literature, during which the cadet described being systematically rotated around different roles in the company before being given the opportunity to decide where they would like to stay working for a prolonged period. Each time they were moved to new roles, they were supplied with formal training and education. They were supplied with a clear role description and clear remuneration structures. The cadet reported to a support team as well as a cadet manager and were assessed and provided with regular feedback. The company had implemented financial incentives to perform well at university. This cadet also expressed other benefits of their experience that included industry connections. This insight into a cadetship structure aligns with what the literature describes to be effective WIL by providing education and benefiting the employee's professional life span (Moore & Plugge, 2006; Flesher, Leach & Westphal, 1996; Coleman, 2016). It also aligns closely with most of Smith's (2012) key dimensions of a WIL framework, including authenticity, alignment of teaching and learning, supervisor access and induction processes.

How cadet exploitation can lead to broader inequity

Cadets in the interviews indicated that, if they were dissatisfied at work, they felt no obligation to remain at that company and would instead look for cadetships elsewhere. Indeed, it may be empowering for some cadets to experience WIL at a range of companies and testing the water is noted as a benefit of WIL (Patrick et al., 2008). High cadet turnover may even incentivise companies to revise and improve cadetship programmes. Yet, Marx's notion of the reserve army of labour contradicts the notion cadets can freely swap companies. The existence of a reserve army of cheap labour is guaranteed by universities who mandate WIL, forcing students to be cadets and thereby diminishing incentives for companies to improve their programmes to retain their labour. Rather, construction companies in NSW and ACT are acutely aware that approximately 900 new students enrol into construction programmes in the region every year to fill the gap left by any cadet who may resign in protest at poor WIL. A reserve army of labour are used and abused by employers to drag and hold down basic labour standards (Obeng-Odoom, 2015; 2021; Standing, 2011 [2016]). In this specific case, WIL workers constitute, in Marxist terms, a 'stagnant' form of reserve army 'comprising people in irregular employment' (Stilwell, 2011, p. xiv).

Construction students' motives to work long hours as cadets is also spurred by the desire to outcompete their peers, a mentality common in other studies of WIL (Grant-Smith & McDonald, 2016). This level of competitiveness can create barriers to work, increasing inequality as it favours those who can afford to work for low pay. It also can encourage a race to the bottom for labour conditions generally (Perlin, 2011). Broader labour standards are further undermined by the fact that the miscellaneous tasks performed by cadets, could otherwise be completed by more expensive labour.

In the Marxist lens, the long working hours and ad hoc reward system clearly supports the notion that capitalist organisations will attempt to extract maximum surplus value from their labour by maximising the duration of the working day and intensifying work, which will inevitably abolish workers' free time. Wider negative repercussions of cadets working so much, lie in the fact they become time poor and unable to spend adequate time on their social, emotional and personal pursuits. All of the aforementioned themes show that the cadetship can indeed be precarious - a source of social vulnerability, distress and a clear cause of burnout (Campbell & Price, 2016; Lewchuk, 2017).

When cadets interviewed were asked what professional, legal or union-based support they could access if they felt mistreated, none knew of any such support networks. This lack of ***conscientização*** or ***conscientisation***, to use the concept by Palo Freire the Marxist educator, creates significant barriers in student ability to take advantage of industrial action and collectively bargain to increase wages and change working conditions (Freire, 1970). Marx's concept of alienation can partly reveal why construction cadets allow this exploitation to occur without protest.

Future research, implications and conclusion

This research sought to answer the question why are construction cadets at such risk of burnout and poor mental health problems during their WIL? This question was to be answered by assessing the practical experiences of construction cadets at work and to investigating the reward systems in place in order to help to explain the causes and consequences of the established high rates of burnout. Using surveys and interviews of students enrolled in programmes at NSW and the ACT universities that encourage or mandate cadetship, I found that cadets can be subjected to poor working conditions, overwork, harassment, unstructured remuneration and wage theft.

These findings have their limitations. One is the one-sided perspective of this research. Further research could be undertaken to investigate the perspective of organisations who offer cadetships, in order to better understand workplace culture and how cadet learning is supported at work. Here, future research could also investigate how problems like discrimination or abuse can occur in the workplace through observing cadets while at work. It is also worth considering how intersecting identities may shape the experience of cadets, which this work largely neglects. There are also limitations in this research related to the sample size, and the results cannot be generalised to the entire population of construction undergraduates in Australia because data were collected from only six out of the 19 institutions that teach construction undergraduates. Extensive national research could help here, or on the other hand, deeper qualitative research that refines the scope to study a specific construction undergraduate degree that mandates WIL may also help gain better insight into the structure of the degree, provide deeper insights into work-life balance, the impact of cadetships on academic performance and other work- university conflicts.

Even with these limitations, the findings of this research show that the cadets surveyed and interviewed tend to have limited structured or consistent education in their WIL. Instead, they are expected to complete duties that others do not want to carry out and fill roles that would potentially be completed by more expensive labour. Cadets can be subjected to wage theft, whimsical pay scales, are often overworked and must sacrifice time at university for their work. The cadetship can limit a cadet's development of human capital and in some cases, could undermine the integrity of labour standards. Reflexively, the employers obtain cheaper labour that contributes to maximising their profits. According to ABS data, Australian construction companies made profits of over $25 billion in 2021 (ABS, 2022). This exploitation shows how WIL can undermine quality higher education and so it is crucially important to try to address these problems. There is a need for closer support to facilitate these opportunities for students in a safe, respectful way that recognises the work being contributed and ensures that WIL is relevant, structured and beneficial for the cadet.

One way would be to incorporate the cadetship into an accredited structured programme which stipulates training and edification, salary, duties and working conditions, in a similar fashion to Australian apprenticeship scheme programmes. The resulting benefits could also be significant for firms and universities. Yet the apprenticeship scheme, although carefully structured and regulated, is still faced with problems due to the inherent economic and social forces that mediate WIL. As Knight (2012) notes, the rigid apprenticeship scheme lacks the capacity to adapt to quickly changing marketplaces and the early periods of training leave young people with little economic remuneration. Even within this well-funded WIL programme, recognised by the community, employees, unions, employers and government, there continues to be inequality and exploitation.

Implications of this study for universities, may involve reforming curricula to incorporate education on workers' rights and increasing communication with other stakeholders to ensure the needs of students are met. There could also be further legislation relating to integrated learning, similar to France's Cherpion Law, which puts universities in tripartite employment contracts for WIL, ensuring higher education institutions have a voice in structuring and guaranteeing specific WIL programmes. Even then, this legislation has been criticised as an incomplete way to ensure standards for WIL workers, has raised additional barriers to work, and has even been capitalised on by universities, who now can charge a fee for the services of being involved in the WIL (Stewart & Owens, 2013; Stewart et al., 2021).

From the perspective of professional associations and bodies, their responsibilities can be extended to enacting affirmative re-engagement with stakeholders by beginning to revise their own regulations, to include award wages and other financial incentives (Obeng-Odoom et al., 2011). In the WIL process that could extend to certifying and encouraging specific arrangements proven to be beneficial to students. As pointed out by the one respondent who was in a much more carefully regulated and organised cadetship, balancing work and study wasn't so draining when doing well at university was enabled and even rewarded in the workplace.

However, perhaps the most effective gateway in ensuring improved conditions and wages for cadets within the Marxian tradition, is that students in WIL could start to collectivise and eventually unionise. Here, unions should aim to revise and implement stronger supporting structures for cadetships and WIL generally, so that students are able to represent themselves collectively. Unionisation has its own limitations, as leading Marxists such as Leo Panitch (2009) have shown. However, as the experiences shared by Jim Stanford (2017; Stewart & Stanford, 2017) show, a collective union of construction cadets could at least ameliorate their problem of labouring for little or nothing.

Chris Brown is a Lecturer of Digital Construction in the Bachelor of Construction Project Management (BCPM) at UTS. Contact: Christopher.brown-1@uts.edu.au

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