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… Not drowning, waving. Resilience and university: a student perspective

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ABSTRACT

Constant change and stress in the workplace require workers with resilience. Universities have a key role to play in developing this vital capability. Past research has measured levels of university student resilience, but little is known about resilience from the learner's perspective. This semi-structured interview study of 38 undergraduate and postgraduate students gives voice to the students' own understanding of resilience, strategies which they use to develop their resilience, and how universities can support the development of student resilience. Thematic analysis revealed that students differed in the way they conceptualised resilience according to their year of study and life experience. Maintaining perspective, staying healthy, and developing support networks were identified as key attributes linked to resilience. Findings provide insights into the resilience needs and capabilities of the learning community, and suggest strategies which universities can implement to support resilience development.

Introduction

Studying at university presents a unique opportunity to develop the skills and capabilities of individuals. This is predicated on the University creating an environment which is positive and supports student learning. While the University experience presents positive opportunities for the student, risk and potential adverse and unknown consequences are also implicitly situated within this experience. Risk cannot be disassociated from any learning experience and over the course of their university education students will at some time experience feelings of self-doubt, stress and academic or social inadequacy (Phair 2014). If it is assumed that stress and adversity are inextricably linked with opportunity, then the success experienced by students at university is, in part, determined by their level of resilience. This positions the university as playing a key role in addressing the development of resilience. Resilience at university is central to a successful participatory learning experience, and therefore, to the collective human and social capital of an individual.

A student's response to the challenges, stressors, and risk factors presented over the course of their university degree will determine the value and success of his/her experience and future learning experiences. Resilience, a set of attitudes and behaviours which are associated with an individual's ability to bounce back and to adapt in the face of risk and stress, has become widely recognised as a vital capability for university students to develop (Dickinson and Dickinson 2015; Fuller, Belihouse, and Johnston 2016; Walker, Gleaves, and Grey 2006). Resilience underpins an individual's capacity to handle stress and anxiety (Brannick, Miles, and Kisamore 2005; Román, Cuestats, and Fenollar 2008; Winwood, Colon, and McEwen 2013). Therefore, resilience helps students to

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manage academic demands to enable positive progress and cope with the pressure of study, work, and life (Caruana et al. 2011). However, Sriskandarajah et al. (2010) argue that resilience in the context of the university is difficult to address tangibly.

Central to most definitions of resilience is the concept of 'bouncing back' from a risky or stressful situation. For example, DeRosier et al. (2013) describe resilience as critical to an individual's ability to adjust to stressful and adverse circumstances. Friborg et al. (2009) define it as a broad concept about an individual's ability to adapt to deal with stress. Similarly, Howard and Johnson (2000) define resilience as the capacity for effective coping and adaption despite exposure to difficult or challenging circumstances. While, Gerson and Fernandez (2013), Gillham et al. (2007), and Walker, Gleaves, and Grey (2006) refer to resilience as the ability to recover from stressful situations and to endure ongoing difficulties.

It has been recognised that while some students struggle in the face of adversity, others thrive (Carver 1998). Leadbeater, Dodgen, and Solarz (2005) consider that student resilience is informed by the protective factors, capabilities, or coping strategies that assist him or her to manage stressful events more effectively and mitigate or eliminate risks. Two types of positive protective factors are associated with an individual: internal and external. Internal positive protective factors are individual qualities or characteristics/capabilities, responsible for fostering resilience, which are specific to the individual. Johnson (2008) identifies optimism, self-efficacy, and psychological well-being as the most important to the development of resilience. External positive protective factors are positive environmental support structures and include the home, school, peer group, and community (Masten 2000). According to Johnson (2011, 6), the important external factors that contribute to the development of resilience include 'caring relationships, high expectations and opportunities for meaningful contributions'. Positive external factors that support a learner in a university context include lecturers nurturing learning, a related or responsible adult protecting student well-being, a supportive friend who acts as a consultant, and a caring parent (Benard 2004; Brown, D'Emidjo-Caston, and Benard 2001; Constantine, Benard, and Diaz 1999). Holdsworth, Turner, and Scott-Young (Forthcoming) argue that universities have a responsibility to develop both internal and external positive protective factors in all of their operations.

Resilience is not a definitive capability, but a dynamic one which involves ways of thinking and acting that can be learnt and developed (Caruana et al. 2011). University students who have learned constructive coping mechanisms and are supported by a diversity of protective factors will function optimally in distressing situations. Those without such coping mechanisms will struggle and this may result in a poor academic outcomes and/or social experiences (Hassim, Strydom, and Strydom 2013; Laidlaw, McLellan, and Ozakinci 2015). The potential role of the university as a primary contributor to the development of resilience in students is evident. Universities can nurture resilience in their learning community both formally and informally. In a formal capacity, universities can facilitate learning experiences that tacitly support the development of skills and capabilities attributed to resilient individuals. Informally, universities can support the development of resilience through community-based activities and programmes such as clubs, student union activities, and outreach programmes. Participation in these activities serves to build students' networks and develop support mechanisms. For universities to effectively support the development of student resilience, it is important to better understand how students conceptualise resilience, how they recover from stress and adversity, and the role of the university in the development of resilience capability.

Aim

Douglas et al. (2015) argue that it is important to capture the student's own voice on matters of educational significance. Consistent with this view, this research explores undergraduate and postgraduate university students' understanding and perception of resilience, and its importance to learning, their university experience, and future professional practice. This study also aims to explore students'

perception of the role that universities can take to develop resilience within their learning communities. Three research questions are addressed: (1) how do university students define resilience; (2) what strategies do students draw on to develop their own resilience; and (3) how can universities support the development of student resilience. The findings are of significance to the Higher Education sector as resilience research in this setting is limited compared to research on resilience in schools and the workplace. The findings will inform the scholarship of university learning and teaching as well as addressing implications for broader university support structures, both academic and social.

Research methodology

The research is informed by a constructivist/interpretivist paradigm. Consistent with this methodology, knowledge is sought with an inherent understanding that truth or meaning only comes into existence through an individual's engagement with the realities in his/her world (Denzin and Lincoln 2005). Subject and object emerge as partners in the generation of meaning. Understanding of the social world from this perspective can only be obtained from first-hand knowledge of the population under investigation (Crotty 1998). This approach emphasises the analysis of the subjective accounts that one generates by 'getting inside' situations and involving oneself in the everyday flow of life. It is acknowledged that an insider position or experience is crucial to understanding a community (Thoresen and Öhlén 2015). This is considered an appropriate methodology as the research aims to develop an understanding of resilience from a student perspective.

Sampling strategy

A purposive sampling strategy was applied to the research. Students undertaking studies in the built environment at a large urban Australian University were invited to participate in an interview. Postgraduate students were enrolled in a Master of Project Management degree, undertaken over two years of full-time study or four years of part-time study. Undergraduate students were enrolled in a Bachelor of Applied Science (Honours) degree in the disciplines of Property, Construction Management, and Project Management. The Bachelor degree is four years in duration; however, some students enter the University from other educational pathways and as a consequence, the duration of their degree may be less than four years. The later year students who participated in this research were all enrolled in final year subjects; however, due to previous studies/recognised prior learning agreements, some may have only been in their third year of study at the university. Consequently, these students will be referred to as 'later year' students.

Commencing and later year students were purposefully selected as university is a significant location of transition. Undergraduates transition from school into university, progress across a degree/course/programme, and then transition from university into the workplace. For undergraduates, the first year of university is a seminal time in a learner's educational experience. Learners entering university from school face considerable challenges as they embark on two significant phases of life; adulthood and tertiary education (Caruana et al. 2011; Hassim, Strydom, and Strydom 2013; Laidlaw, McLellan, and Ozakinci 2015). University presents a new learning environment coupled with increased responsibility, without the same level of supportive academic and social infrastructure previously provided in a school setting (Johnson 2008). At the successful completion of university education, graduates transition into the workplace. Graduate resilience will contribute to the successful adaptation to their new work environment and their ongoing career progression and ensure that lifelong learning experiences are recognised, successful, and rewarding (Bates and Miles-Johnson 2010).

While postgraduate students do not experience the same transition points as undergraduates given their life stage, it is expected that a period of transition will take place as they adapt to the academic demands of a postgraduate degree. Furthermore, postgraduate students commonly

undertake their studies alongside work and family responsibilities and a period of transition and adaption takes place as they seek to balance multiple demands.

Research method

Semi-structured interviews were conducted with students to generate rich data to enable a thorough understanding of their social world (Patton 2002). The interview questions excluded jargon, slang and abbreviation to avoid ambiguity, confusion, vagueness, emotional language, bias, and leading language (Neuman 2000). The questions were structured to explore: (1) students' understanding and definition of resilience; (2) strategies used by students to build resilience; and (3) students' perceptions of the role of the university in supporting the development of resilience. Interviews were recorded and transcribed, and data were subject to thematic analysis. Given the exploratory nature of the research, thematic analysis was deemed a suitable method from which patterns or themes could emerge a priori (Boyatzis 1998). Qualitative data from the interviews were independently analysed by two researchers who agreed on the emergent themes, thereby ensuring inter-rater reliability (Ballinger, Yardley, and Payne 2004). Quantitative content analysis (Joffe and Yardley 2004) was applied to the data to identify the frequency of the emergent themes.

Findings

Interviews were conducted with 38 students. Of those students, 60.5% ($n = 23$) were undergraduate students. Twenty-one percent ($n = 5$) of undergraduate students were enrolled in their first year, 17.5% ($n = 4$) were undertaking third and fourth year courses concurrently, and 60.9% ($n = 14$) were enrolled in their fourth year. The majority of undergraduate students were local (95.7%) and working (87%). Thirty-nine percent ($n = 15$) of students were postgraduates. Almost half of these were undertaking their first year of postgraduate study (46.7%, $n = 7$). Sixty-six percent ($n = 10$) of the postgraduate students were employed. There was almost an equal number of local (53.3%) and international (46.7%) postgraduate students. The average age of the undergraduate students was 25 years (SD = 6.0 years), and of the postgraduate students was 33 years (SD = 11.2 years). These demographics are summarised in Table 1.

Definitions of resilience

Five key terms emerged from the data which reflected how students defined resilience. The most cited term referred to enduring (34%). Students used words such as withstanding, coping, and keep going to explain how they defined resilience. Bouncing back was the second most cited term (21%), followed by manage (18%), adapt (11%), and focus (11%). Students who defined

Table 1. Demographic characteristics of participants.

	n	%		n	%
Undergraduates	23	60.5	Postgraduates	15	39.5
Year of study			Year of study		
One	5	21.7	One	7	46.7
Three/four	4	17.4	Two	5	33.3
Four	14	60.9	Three	2	13.3
			Missing	1	6.7
Employed			Employed		
Yes	20	87.0	Yes	10	66.6
No	3	13.0	No	5	33.3
Status			Status		
Local (Australia)	22	95.7	Local (Australia)	8	53.3
International	1	4.3	International	7	46.7

Note: $N = 38$.

resilience according to 'focus' used words such as work towards, goal attainment, and outcomes. A small number of students were unsure how to define resilience (5%). Table 2 summarises definitions of resilience according to key terms and frequency of citation.

The data revealed a different level of understanding of resilience between early and later year undergraduate students. The more life experience the students had, the more complex was their understanding of the term and its associated 'lived' realities. Students in the first year of their degree programme had a simplistic understanding of resilience. Approaches to resilience directly related to the ability to withstand or try again to overcome adversity when faced with a challenging situation. When asked to define resilience, early year students commonly replied with a simple sentence. For example, one first year undergraduate defined resilience as: 'the ability to keep going despite knock downs' (P2, undergraduate, first year). Similarly, another student explained his understanding of resilience as: 'the ability to overcome problems and have another go if you fail' (P3, undergraduate, first year). Another student defined resilience as: 'the ability to bounce back through stressful situations and prove to yourself that you can turn things around' (P4, undergraduate, first year). Central to their definitions was dealing with situations of adversity or risk at the current time. The definitions highlight that little context was brought to their definitions and associated approaches were limited to the university setting.

In contrast to the first year students, students in the later years of their programme of study articulated more complex definitions of resilience and combined multiple concepts and associated capabilities. These students recognised that resilience in the face of adversity and stress required an individual to 'bounce back'; however, they added that this would only occur in conjunction with the ability to: understand and control emotions in the face of adversity; develop skills aligned with coping strategies; develop time management skills across multiple projects; prioritise competing demands from different environments; adapt to the unknown or unexpected; and learn new skills from negative experiences and apply these skills moving forward.

Postgraduate students identified the same concepts as the later year undergraduates. The students commonly articulated the importance of setting and working towards and achieving long-term goals. For example, a postgraduate student described resilience as:

> … the ability to not only sustain stress … but bounce back from barriers or things that are put in your way to stop you achieving your goals. It is about how you process and work through and incorporate strategies and not give up. A person's ability, whether it is inherent characteristics or skills they have learnt, to continue in the face of adversity … (P35, postgraduate)

Postgraduate students also perceived that resilience is developed throughout the course of an individual's life time. For example, one student commented:

> If they (children) are not exposed to adversity they will find it a lot more difficult to cope because they are more sheltered than if they are exposed to it and taught strategies and coping mechanisms … whether it is inherent characteristics … or it is skills they have learnt, it is the ability to continue in the face of adversity. (P35, postgraduate)

Value of resilience

The depth and complexity of the perceived value and importance of resilience reflected the level of educational progression and attainment and life experience of students. First year students were

Table 2. Definitions of resilience according to key terms and frequency of citation.

Term	Frequency of citation ($N = 38$)
Endure (withstand, cope, keep going)	34% ($n = 13$)
Bouncing back	21% ($n = 8$)
Manage	18% ($n = 7$)
Adapt	11% ($n = 4$)
Focus (work towards, goal attainment, outcomes)	11% ($n = 4$)
Don't know how to define	5% ($n = 2$)

conscious of the positive relationship between resilience and their success at university, and their responses were limited to a university context. For example, a first year undergraduate explained how resilience had impacted his university experience: 'Coming out of school straight to university you have to be resilient, otherwise I would have dropped out' (P5, undergraduate, first year). In contrast, later year undergraduate and postgraduate students were able to more clearly identify and articulate the value resilience has to all aspects of their lives. In addition, resilience was recognised as important to professional practice. One postgraduate student described the need to be adaptable in a work setting and that resilience was critical to support this: 'This is a fast changing world and very competitive' (P25, postgraduate). The mature age first year undergraduate student commented:

> It allows you to deal with the politics of the workplace. You learn how to accept people and deal with the fact that people think and act differently to you. You can keep perspective. It makes you stronger and confident, but at the same time more humble. You are able to provide a strong work ethic, the confidence to say you don't know something and ask for help. If you are a strong person it can help you to build your career because you know your strengths and weaknesses. (P5, undergraduate, first year)

The data suggest that resilience is a complex capability which can be developed with life experience and continued education. Students recognised resilience as essential to a successful university experience and central to positive workplace outcomes.

Resilience attributes

Attributes of resilience are considered as those components which underpin resilience. Three attributes related to resilience emerged from the data. The first attribute focused on the development of perspective though self-reflection, learning through experience, and goal setting. The second attribute focused on maintaining health which encompassed both physical and mental well-being. The third attribute focused on support from peers, friends, and family. The frequency by which these attributes were cited by students differed across early year and later year undergraduates and postgraduates. Table 3 summarises the attributes of resilience, identifies the extent to which they were cited by first year undergraduates, later year undergraduates, and postgraduates.

Within the first year undergraduate cohort, attributes of resilience focused on self-reflection (80%), goal setting (40%), and support from friends (40%) in the development of resilience. Staying healthy with a focus on physical health (20%) was recognised, but not as frequently as the other themes. In contrast, final year students more frequently cited support from friends (28%), peers (22%), and family (17%). Later year undergraduate students focused on maintaining physical health (50%) and mental health (6%). Postgraduate students cited support (peers = 41%, friends = 18%, family = 18%), physical health (29%), and mental health (18%). Later year undergraduates and postgraduates both recognised the need to manage both mental and physical health; however, physical health was cited more frequently. Support networks were most widely cited by both postgraduates and later year

Table 3. Attributes of resilience and frequency of citation.

Resilience attribute	Frequency of citation		
	First year undergraduates (n = 5)	Later year undergraduates (n = 18)	Postgraduates (n = 17)
Perspective			
Self-reflection (learning through experience)	80% (n = 4)	11% (n = 2)	6% (n = 1)
Goal setting	40% (n = 2)	11% (n = 2)	12% (n = 2)
Staying healthy			
Physical	20% (n = 1)	50% (n = 9)	29% (n = 5)
Mental	0% (n = 0)	6% (n = 1)	18% (n = 3)
Support			
Peers (university, workplace)	0% (n = 0/5)	22% (n = 4)	41% (n = 7)
Friends	40% (n = 2/5)	28% (n = 5)	18% (n = 3)
Family	0% (n = 0/5)	17% (n = 3)	18% (n = 3)

undergraduate students. However, postgraduate students noted more frequently the importance of peers, within both the university and the workplace, rather than family and friends outside these institutions.

Students were asked about the initiatives they employed when they experienced stressful or adverse circumstances and these were grouped according to each attribute, as summarised in Table 4. For perspective, initiatives included self-reflection with the objective for self-improvement which in turn built confidence. Another strategy was focusing on long-term objectives and associated intermediary- and short-term goals to help them to endure stressful circumstances. For staying healthy, physical initiatives were most often employed. These may have had a team or an individual component and included sports, sleep, and yoga. Additionally, initiatives such as meditation and chess focused on maintaining mental well-being. For support, students identified three different types of networks. The first was networks with a disciplinary focus, such as peers within the university and the workplace. The second was existing friendship groups external to the university and workplace. The third was family such as their mother, father, and siblings.

It emerged that managing low levels of stress is something that university students face throughout their degree, in addition to sporadic periods of intense stress. During intense periods of stress, such as exams or multiple assessment deadlines at the same time, students sought to develop additional strategies to maintain their level of resilience. Coping strategies employed were dependant on what the individual perceived was the most effective way to address adversity at the time. In fact, students recognised a combination of multiple approaches. While it was recognised by students that their resilience capabilities had evolved as a consequence of their childhood experiences, there was also the recognition that resilience is a capability that can be developed and nurtured. The belief that resilience is part of lifelong learning and skills that can be enhanced is consistent with the definitions and identified capability.

Perspective

Students described perspective as the ability to maintain focus and emotional control when under stressful and adverse circumstances. Having perspective helps recognise the skills required to work through or cope with the situation, and to call on previous experiences in which learning had occurred. Perspective also allows for individuals to consider the stressor from multiple angles which may either negate the issue, or provide alternate ways of viewing the issue and therefore generate possible solutions. Students referred to two sub-components of perspective. The first was self-reflection which includes experiencing, understanding, learning from multiple perspectives, and goal setting. The second was setting short-term and long-term goals. Setting goals enabled individuals to remain focused when things did not go as planned or became difficult.

Self-reflection. Self-reflection was considered important when adapting to or managing adversity. Students described it as the ability to reflect on the situation, to put it into perspective in relation to other events or circumstances in the individual's life, and to learn from the experience. This

Table 4. Attributes of resilience and initiatives used to develop the attribute.

Resilience attribute	Initiatives used to develop attribute
Perspective	
Self-reflection (learning through experience)	Reflection on experience and learning how to build confidence.
Goal setting	Identification of long-term goals and intermediary goals.
Staying healthy	
Physical	Team and individual sports, sleep, yoga.
Mental	Meditation, maintain work–life balance.
Support	
Peers (university, workplace)	Counsellors, lecturers, study groups.
Friends	Friendship groups.
Family	Mother, father, etc.

knowledge and experience was cited as adding to the student's confidence levels. Students indicated that self-reflection required an individual to step back from, or to temporarily remove themselves from the situation, deconstruct the events, manage their emotions, and to develop an approach or a plan: 'So resilience is taking on that feedback and reflecting on it, seeing what it means to you and seeing if you need to change or not' (P6, undergraduate, fourth year). In some instances, this meant taking some time out to reflect on the situation, then returning to resolve the problem. In others, it resulted in the individual utilising the developed capabilities from past situations to negate or mitigate adversity: '… looking on past experiences and seeing how I got through those and thinking towards the future, thinking longer term rather than focusing on the present, seeing past and knowing something happening now will be over soon' (P6, postgraduate).

Students indicated that reflecting or stepping back from the situation and managing stress could be achieved in a number of different ways. These activities can be described as enabling the individual to be mindful of the situation and active in addressing it, or they could engage in activities that promoted mindlessness in relation to the stress/adversity they were facing. The activities themselves could be mindful in nature or mindless depending how the individual engaged in them.

Moreover, working together with individuals of different ages, experience, backgrounds, and worldviews enables students to rethink their own views. This reflection may prove challenging; however, it allows for self-evaluation and the development of new knowledge. While challenging and requiring a level of resilience, experiencing difference also allows for a greater ability to see and therefore act differently. One post-graduate cited: 'One of the most important things is working in a group and developing resilience is respecting other people's views and accepting their contributions' (P2, postgraduate). This improves an individual's problem-solving skills as well as developing confidence in unknown situations. Experiencing and learning from difference improves an individual's capability and allows him or her to readdress and think about alternative ways to address setbacks and stress.

Goal setting. Students identified that developing the ability to set goals, both short- and long-term, helped them to 'bounce back' from adversity. Short-term goals were important in identifying meaning in tasks undertaken which assisted students to maintain perspective in times of success and failure. They used goal setting as a strategy to make longer term goals more attainable by: 'breaking down big picture goals into smaller goals that you can achieve in a stepping stone kind of way' (P5, undergraduate, first year). Students also used goals to motivate them to strive harder: 'I made goals … and pushed myself to go further' (P5, undergraduate, first year). For many students, completing their degree was their ultimate goal: 'I had a great plan. I just moved on and kept going and I achieved what I wanted, and it made me feel better' (P5, undergraduate, first year).

Reflecting upon their progress was also important in relation to moving forward or towards a long-term goal as this allowed for the recognition of new knowledge, achieved though success or failure and perspective. One student commented:

> There are always challenges in my everyday life so I constantly take time to assess myself, remind myself of the goals I've achieved, where I've come in life, as well as put things in perspective, what's important in life, where I am going in life. (P5, undergraduate, first year)

Goal setting across all year levels enables perspective relative to the completion of the degree programme. It provides opportunities for students to self-assess and ensure the main objective is always in focus. This enables students to pick themselves up in the face of setbacks such as poor marks or difficulties in group work.

Staying healthy

Students defined staying healthy as the maintenance of good levels of physical and mental health to ensure the individual can best respond to stressful and adverse circumstances. Both physical and mental well-being were identified by students as important to the maintenance and development

of resilience. For first year undergraduate students, staying healthy was predominately articulated as physical health. Later year undergraduates and postgraduate students recognised the combined need for metal as well as physical health.

Physical activity. All cohorts of students identified undertaking physical exercise as important when facing periods of stress. Activities included motorbike riding, running, lifting weights, going to the gym, and playing video games or musical instruments. Physical activity also enabled individuals to process emotion and gain perspective, and provided them with a means of 'switching off' from the stress, and created a period of mindlessness. Other activities described by students included meditation, yoga, and deliberately hand-washing clothing or dishes. Physical activity also allowed for socialisation with friends or others allowing for perspective taking in combination with emotional processing.

Participation in sport provided a space for many of the first year undergraduate students to self-reflect on the process of developing resilience. Since the students were mainly young males, the role of lessons learned from team sporting activities was a common theme: ' … obviously you have to be quite resilient in team sports and activities … because there's not always going to be people to share the same views as you' (P1, undergraduate, first year). While final year undergraduate students and postgraduates recognised the mental benefits of physical active, one postgraduate commented:

> I approach it from both a point of view of physical wellbeing and mental wellbeing. So I try to make sure I engage in regular physical activity. I need that physical exercise … it is almost meditation. I find it helps me get through the day and just makes me a lot more mentally prepared for things that might happen. (P36, postgraduate)

Mental well-being. Students identified the importance of staying positive as a key component of resilience. Students also described how rewarding themselves when they achieved a goal was a way of maintaining motivation. For example, one student identified that it was important to learn to celebrate success as a way of giving meaning to the task being undertaken: 'Since I have come to university I have learnt to celebrate the good things, like if I get a good mark I celebrate it otherwise what is the point, I won't find it enjoyable' (P2, undergraduate, first year). Some students emphasised the importance of positive self-talk for 'reminding I can do it'. Students used affirming phrases like 'give it another shot' and 'make everyone happy and making yourself happy' to encourage themselves to persevere in the face of difficulties. As part of moving toward a long-term goal, students recognised the need to learn to manage time across all aspects of their lives including social, work, and university. Managing their time provided necessary work–life balance, enabling students to participate in rewarding activities such as volunteer work, extracurricular activities, mentoring programmes, and leadership camps.

Support

Students described support in terms of having someone who was there for them when they experienced negative emotions. Support is developed from strong positive relationships and comes from friends, family, and peers both at university and in the workplace. Managing stress, processing emotion, resolving risk, and gaining perspective were achieved through informal social engagement with family, friends, peers, or mentors. Support in this context provides perspective in terms of providing time out from the associated issue or giving perspective on the issue itself.

Friends provided the opportunity to remove the individual from the stress/adversity faced and to engage in activities that allowed them time away from the issue. This provided the individual with the resilience they needed to reface the adversity/stress with 'fresh eyes'. Alternatively, students identified friends as providing perspective and advice on the stress/adversity as they were removed from it. Family were cited as providing emotional support just by 'being there'. Support from friends and family, while important, was not cited as frequently as support provided by university peers.

Support from peers was identified in terms of formal and informal support. Informal support was time spent outside of class together where assistance or advice might be sought. Formal support was identified as participating in study groups with peers or receiving direct feedback from peers.

The relationship between student and lecturer was recognised as important by later year undergraduate students and postgraduate students. Students acknowledged the support that teaching academic staff provided both within and outside the formal learning experience. One student commented: 'my lecturers have had a massive influence on my moving forward' (P15, undergraduate, later year). Similarly, another student in the later part of his undergraduate degree commented:

> … there needs to be a general culture, shared between students and lecturers, where students can feel encouraged to not give up. I know some lecturers treat students as numbers, but there are others who treat students as people and will help support you. I have seen students who have been very motivated by that. Other students give up because they don't want to be in this environment for the next 3–4 years. (P8, undergraduate, fourth year)

Students emphasised that a positive, open relationship with staff enabled them to feel safe enough to take risks in the classroom and to learn from their mistakes.

The role of university

Students recognised that university plays a key role in nurturing student resilience, and this can take place both within and external to the classroom. Some strategies relate to the scholarship of learning and teaching and include classroom activities, assessment and feedback, as well as mentoring and study groups. Other strategies are situated within the broader university community and include clubs, sports, counselling services, and mentoring programmes.

Students also emphasised the role of experiential learning in developing their resilience. For example, a student commented: 'Resilience has a lot to do with experiencing sometimes negative experiences and then being able to learn from them' (P15, undergraduate, later year). Students identified that the classroom should provide challenging active learning experiences, giving them the opportunity to develop their resilience. A student commented:

> … if you have always succeeded at something, and you have never had hardship, then you have never built resilience … I failed my first test in 6 years at the start of last semester. I got 20% in the test. I was shell-shocked and you know it made me work my butt off for the rest of semester because I thought: I want to succeed at this. (P17, undergraduate, later year)

Encouragement by university lecturers to explore other perspectives was also considered important. Students recognised that one way to develop their perspective was to interact with *each other* and explore other perspectives. Understanding issues from alternative perspective gives students more confidence in themselves and improves their self-awareness and ability to work with others. One way this could occur was though well-structured group activities and formal assessment of class activities. One first year undergraduate student commented that group work: 'is fantastic for building interaction between people and learning how people work as a group, and it is also a realistic work situation as people work in teams' (P5, undergraduate, first year). A later year undergraduate student commented on working with others to solve a problem: 'I think anything that involves people or interacting with others really enables you to reflect on the situation, understand what is happening and learn from it and move forward' (P7, undergraduate, fourth year). Understanding different perspectives enables individuals to learn to how to adjust to different personalities. One later year student commented:

> In meeting different people, sometimes people don't have the same perspectives as you … it makes you understand different perspectives and that your perspective is not the only perspective. That teaches you a lot as well, to grow, to be open to new ideas, not just about one mindset. (P7, undergraduate, fourth year)

This leads to a greater level of respect for different people, and the ability to work with those who want to do things differently.

Feedback was identified as an important mechanism for fostering resilience. Students recognised that the depth and delivery of feedback was crucial to 'bouncing back' in the instance of under achievement, and in developing confidence, motivating and identifying meaning in, both formative and summative assessment/tasks, and in the development of a safe learning environment. One later year undergraduate student commented: 'If a lecturer was to ask me more questions about where I was at, I would be more likely to stay on top of things' (P9, undergraduate, fourth year).

Students considered that simplistic feedback that did not allow for further extrapolation via supportive discussion was a negative determinate of their levels of resilience. Inadequate feedback also acted as an inhibitor to the value they placed on the task, the course, and their education in general. Conversely, students were grateful and spoke highly of lecturers who communicated feedback to them personally. This style of interaction left them feeling supported and consequently wanting to do better. One later year undergraduate student commented: 'I think when a lecturer gives you feedback face-to-face and you see them and you sit down with them and they say "you did this well, but you need to improve on this", it is more constructive' (P14, undergraduate, later year).

The relationship between the lecturer and student is important in developing and maintaining a student's resilience. Support in this context relates to how students are progressing throughout a semester or programme, as well as how they are dealing with pressure within a course. The data revealed that students benefit from clear, empathic, face-to-face communication. Furthermore, a relationship of trust helps students to have the confidence to ask questions and converse openly with their educators.

Students in later years of their degree and postgraduate students also recognised the role of employer engagement in university education via industry guest lecturers. Students believed that guest speakers helped them develop their levels of resilience by sharing their experiences and reflections. As a result, they were able to gain perspective in relation to managing stress in professional practice. One mature age first year student commented:

> It has been great when guest speakers come in and talk about what they have done. This helps to build the students' end goal and when students know where they are going and what they want to achieve, resilience comes a bit easier. (P5, undergraduate, first year)

One postgraduate student recommended the need for: ' … more industry leaders coming in and identifying what they look for in a student … providing some kind of method where they (the student) can actually improve' (P27, postgraduate).

Students identified the value of formal mentoring programmes by industry professionals. This was perceived as important in providing meaning to the activities they were undertaking as part of their studies. Additionally, students identified that mentoring assisted in the identification and development of skills vital to their ability to adapt and cope with future workplace stressors and situations. These were considered important as they provided context for how resilience capabilities can be applied in the workplace. For example, a later year student recognised the role of mentors in the development of resilience: 'I think having a mentor program would be really great … if you have a meeting with industry professionals they could … give you a bit more practical experience … students need to be moulded into the environment they are going into' (P21, undergraduate, fourth year).

The value of extracurricular activities associated with resilience and managing life stresses was highlighted. Sporting facilities and sport activities provided a way for students to manage their stress and maintain their resilience. For example, one student commented: 'I think things like exercise have been helpful for me' (P9, undergraduate, fourth year). Postgraduate students recognised the importance of student activities as a way of developing resilience. Encouraging the development of friendship networks assists in the development of resilience and consequently students identified the need for universities to foster the development of community through social gatherings, both formal and informal, and the facilitation of social groups as part of the university experience. This

was identified as very important for the international cohort of postgraduate students. For example, one student commented:

> Inside university, joining a social club, especially when the members are peers from your own program. If you develop an attachment to them, and that will transfer to your studies, thinking I can't give up because my friends are here and they can lift me up. (P8, undergraduate, fourth year)

Students perceived that several other extracurricular activities offered by the university contributed to developing their resilience. Some students emphasised the benefits of travelling overseas on short study tours or on longer student exchange programmes for taking them out of their comfort zones. Many noted the importance of university counselling services for providing support and guidance during stressful times and for helping them develop useful coping strategies.

Discussion

Definitions and capability

Definitions of resilience have focused on the ability of an individual to bounce back in the face of stress and adversity (DeRosier et al. 2013; Gerson and Fernandez 2013; Gillham et al. 2007; Walker, Gleaves, and Grey 2006). The results suggest however that academic resilience is more than merely 'bouncing back', and that definitions limited to the concept of bouncing back are simplistic when related to student learning. Academic resilience is more aptly defined as the positive adaptation to situations of stress and adversity within the context of the situated formal or informal learning experience which enables student progress, growth, and learning. This requires students to be capable of reacting in such a way that supports progress during episodes of both short-term periods of intense stress and the longer term enduring level of stress associated with the entire degree experience (Martin and Marsh 2009; Phair 2014; Walker, Gleaves, and Grey 2006). Central to student resilience is the presence of both implicit and explicit factors which nurture the development of this capability. Implicit factors refer to the skills of the individual, while explicit factors refer to the environment in which the individual is situated. Resilience in this context relates to the interaction between the whole of the student and the institution to enable positive coping mechanisms (Claxton 2002).

Students identified three key attributes which underpinned their understanding of resilience in a university setting. This is in contrast to Winwood, Colon, and McEwen (2013) who identified seven components of resilience in a work setting:

(1) Living authentically: knowing and holding onto personal values, deploying personal strengths, and having a good level of emotional awareness and regulation.
(2) Finding one's calling: seeking work that has purpose, a sense of belonging, and a fit with core values and beliefs.
(3) Maintaining perspective: the capacity to reframe setbacks, maintain a solution focus, and manage negativity.
(4) Managing stress: using work and life routines that help manage everyday stressors, maintain work–life balance, and ensure time for relaxation.
(5) Interacting cooperatively: workplace style that includes seeking feedback, advice, and support as well as providing support to others.
(6) Staying healthy: maintaining a good level of physical fitness and a healthy diet.
(7) Building networks: developing and maintaining personal support networks (which might be both within and outside the workplace).

Of the seven components of resilience in the workplace identified by Winwood, Colon, and McEwen (2013), three are in alignment with the current study's findings. These include maintaining

perspective, staying healthy, and building networks. The definitions of each attribute are similar to those outlined by Winwood, Colon, and McEwen (2013). Staying healthy was extended in this study to include mental as well as physical health. The findings indicated that building networks was conflated with interacting cooperatively. This was the case as students sought feedback and advice from those within their support network. While students did not explicitly refer to living authentically or finding one's calling as key components of resilience at university, they did place a value on goal attainment and finding meaning in university tasks.

It is important to recognise the role of resilience in universities as complex. The stressors associated with the university experience are often compounded as it is the location of significant transition (Bates and Miles-Johnson 2010; Caruana et al. 2011; Phair 2014). Evidence suggests that resilience is important in relation to learning as well as to the successful school-to-university transition and the university-to-workplace transition. (Hancock and Walsh 2016). How individuals respond to the inevitable challenges, stressors, and risk factors in the university environment will determine the value and success of their university and future learning experiences.

University education was identified by participants as an appropriate forum for the development of resilience and the educators themselves were seen as critical to this development. The scholarship of learning and teaching, that is, pedagogy, curricula, and learning and teaching methods as embodied by individual educators, was identified as central to the development of resilience in students. The skills and capabilities developed in this formal educational experience were identified as important for student success at university and were further recognised as vital to the students' resilience across multiple spheres of their lives.

The role of the university in the development of resilience

Students identified three core relationships central to a successful educational experience at university and to the development of their resilience. These included the environment where learning and teaching occurs; curriculum construction and delivery; and the relationship between the learner and the educator. These findings are consistent with Anderson and Carta-Falsa (2002) and Froneman (2014). Students need a safe and caring learning environment fostered by positive relationships with both their peers and their educators. Learning requires positive language and attitudes. Failure is a central part of learning, but its associated connotations need to be reconceptualised as a learning opportunity. Respect and empathy must be embodied by educators and students within a learning space if perspective and different perspectives are to be maintained and understood. Equally, academic expectations, standards and goals setting, and behaviours such as listening and helping must be practised if academic self-determination, competence, and resilience capability are to be achieved. This relates not simply to the individual, but also to the learning community so that collaborative learning is achieved. Additionally, students need to understand how they can reduce stress through developing an understanding of stress control strategies, such as meditation, yoga, and exercise which can be built into extracurricular activities (Harvey 2007).

From the findings, it is apparent that the environment at the location of learning and teaching has a significant impact upon students' learning experience. Students reported the value of a learning environment that is risk-free, positive, holds high expectations, and provides opportunities to contribute and participate. Such environments are supportive and respectful, where critical but constructive feedback is provided, so that student confidence, identity, and learning can all be nurtured. This study confirms that resilience is developed in students when the educator and student relationship nurtures positive and supportive relationships (Johnson 2008). As identified by Holdsworth, Turner, and Scott-Young (Forthcoming), learning must be situated in protective social environments as these allow for students to take risks, and where they are be more open to negotiating their way through new and difficult ideas and perspectives. Hurlington (2010) argues that support in high-risk situations is integral to the development of resilience. Bunn (2000) recognises that the development of resilience is reliant on the ability of educators to nurture a learning environment that fosters

the psychological well-being and healthy development students need in order to learn. This is consistent with previous research (Anderson and Carta-Falsa 2002; Bernard 1995; Hurlington 2010; Johnson 2008; Vitto 2003). However, in contrast to previous research, the current findings are unique in that they use the student voice as the source of information.

The structure, type, and delivery of the curricula were also identified by students as important to their learning experience and development of resilience. Students recognised the value in education that nurtures a productive relationship between both educator and students and between peers in order to facilitate the construction of understanding and create meaning in their learning experience. Central to this is a constructivist pedagogy that allows for the mutual development of knowledge and an associated resilience capability. This is achieved through the development of capable individuals within their chosen discipline and future professional practice (Kemmis 2011). In order to achieve these objectives, students need to experience and achieve learning outcomes that develop their capability for managing unfamiliar situations and learning to make decisions with unknown impacts. Education should be founded on 'the development of learners' abilities to make sound choices in the face of uncertainty and complexity of the future' (Scott and Vare 2008, 3). Education must facilitate capabilities that allow for individuals to successfully problem solve, develop relationships, make meaning, find purpose, and develop a healthy identity (Bernard 1995) as well as to become lifelong learners (Cryer 1998). Students recognised the value in curriculum and learning activities that could positively develop their resilience by citing the use of group work and discipline-situated complex problems. However, they recognised that curriculum of this nature required well thought-out construction by the academic or the value that group work could bring would be lost.

The results revealed that the learning environment influences resilience through curriculum and learning methods that facilitate students with positive connections and interaction with peers and educators, allow for creative, critical and systemic thinking structured around discipline-relevant problems that require understanding from a range of perspectives, and through this promote the development of self-esteem and self-efficacy (Johnson 2008). Central to a positive learning experience is the fostering of effective interpersonal relationships that result in developing caring and responsible future professionals. Relationships of this nature must therefore be developed in the classroom from the very first contact between the educator and student. Results indicate that students respect and hope for educators that are caring and show concern for their educational and human capital attainment. The findings indicate that university students of any age desire educators that are able and willing to act as confidants, role models and mentors. This behaviour and associated multiple roles act as positive protective factors that enable the development of resilience capabilities. Therefore, educators have a critical, positive impact, not only on students' academic achievement and behaviour, but also on their long-term success in life by helping them to develop resilience skills and attitudes (Dickinson and Dickinson 2015).

Other opportunities to enhance resilience include intervention programmes aimed at different transition phases of a university degree such as student orientation and preparation for graduation. These intervention programmes may be academic in their focus and assist students in the development of capabilities important to their studies. Alternatively, programmes may be designed to allow students to better understand the nature of the workforce and the demands that will be placed on them in the future. Mentoring and leadership programmes allow for such capabilities to be developed within the student body. Collaborative learning activities and academic intervention programmes are important because they assist with the transition from adolescence to adulthood, and from student to worker.

Resilience can also be developed though extracurricular activities and psychological well-being support programmes which include assessments at counselling centres, wellness curriculum programmes, sporting groups, and social clubs. Such activities assist in the establishment of relationships with others, allow students to manage complex environments, and enable them to continue to grow and develop interpersonally (Ryff and Keyes 1995). Laidlaw, McLellan, and Ozakinci (2015, 9)

identified that students who participate in university life and extracurricular activities develop 'positive mental attitudes and well-being'. These activities were found to provide structure for students living away from their families. Additionally, clubs and university societies were found to provide a sense of belonging and reduced the loneliness experienced by some students. Friendships made within these activities and more broadly across the university provide a social support network which can improve an individual's level of resilience (Laidlaw, McLellan, and Ozakinci 2015). Additionally, students rely on friendship and family support networks to maintain well-being (Brimstone, Thistlewaite, and Quirk 2007; Laidlaw, McLellan, and Ozakinci 2015) so the importance of maintaining these external relationships in the midst of studying needs to be made explicit.

Conclusion

The findings of this study identify critical insights which contribute to our understanding of student resilience at both the undergraduate and postgraduate level. Importantly, the voice of the student was central in this exploratory study. The results identified that for students, university education is more than the development of discipline-specific knowledge and skills. Universities also play a central role in the development of resilience. Resilience is recognised by students as a key capability that is critical to their academic success as well as to other spheres of their life. Students acknowledged that within the university context resilience is complex and dynamic, and that development of resilience occurs through an interactive process in which both the learner and the university are central. It is vital that higher education co-evolves with its students, and this requires that their voice is central in relation to their identified needs.

Supporting students to manage stress and adversity contributes to their overall current and future health and well-being. In particular, development of resilience contributes to the mental health and well-being of students and is underpinned by formal and informal processes both within and external to the classroom. Within the university context, learning and teaching policy, pedagogic practice, university-led clubs and communities, student counselling and support services, student-learning centres, and mentoring services all play a role in the student experience linked to resilience. Universities which seek to support student resilience must look at the whole rather than at the parts.

The findings of the study contribute to theory development by framing a definition of resilience which is embedded within a higher education context. Academic resilience is defined as the capacity of a learner to adapt and develop in response to adverse situations throughout the course of their university experience, within the loci of learning or the university environment which enables the learner to return to a balanced life condition with additional capability allowing them to move forward with a greater level of human capital.

The findings of the study have important practical implications for learning and teaching. To support the development of resilience, curriculum structure and content should incorporate complex problem-based activities which are industry focused and are underpinned by a supportive learning environment. The quality of assessment feedback is also considered critical in building capacity, confidence, and contributing to ongoing learning, as is the relationship between educator and learner. Professional development which supports the capacity of academics to design and deliver courses which implicitly and explicitly develop student resilience is critical to enabling universities to undertake the dual role of teaching discipline-specific knowledge and skills as well as developing resilience. However, the impact of higher education massification, large class sizes, and online education is not well understood. It is recommended that further research explore the resilience of students in different learning environments and modes of study with a view to better understanding their requirements.

A key limitation of the study is the sample utilised. As students came from the built environment discipline of one university, findings cannot be generalised to other disciples or universities. Furthermore, this research focused on the student as the unit of analysis. Based on the notion that subjectivity plays a critical role in attributing meaning to experience (Lazarus and Folkman 1984), this does

not present as a significant limitation. The understanding and experience of resilience is assessed by the individual, therefore it is appropriate that the student is the unit of analysis. Given the university plays a critical role in the development of student resilience, further research is required to better understand how universities may embed strategies which enable resilience and support student health and well-being.

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No potential conflict of interest was reported by the authors.

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