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The Australian Psychology Foundation, which represents the research oriented schools of Psychology within Australia, appreciates this opportunity to comment on the current funding arrangements for training in both the discipline and the profession of Psychology. This is particularly timely because the character of psychology as a scientific discipline, fuelled by the growth in the brain sciences and the increasing overlap between psychology and neuroscience, pose substantial challenges that threaten the ability of Australian schools of Psychology to deliver internationally competitive teaching programmes.

Background

Undergraduate education in the science of psychology is increasing because the discipline provides the knowledge and skills that form the foundation for postgraduate professional training in fields of increasing importance in modern society, including clinical, educational and health psychology. Psychology has also become increasingly multidisciplinary in nature. There are now substantial sub fields of *cognitive science*, in which psychology is integrated with disciplines including computer science, physics and engineering; *cognitive neuroscience* where the links are with physiology, medicine (in particular neurology) and pharmacology; and *clinical neuropsychology* which concentrates on abnormalities of the brain-behaviour relationship. Undergraduate education in psychology is also a fundamental enabling discipline for other applied disciplines such as economics, education and management.

Psychological science is also critical to the broader field of neuroscience, because it is impossible to understand the mechanisms of the brain without understanding at a functional level the tasks it carries out (such as perception, learning, memory, emotion) and the algorithms it implements to achieve these tasks.

Exposure to psychology courses at university is beneficial for members of the workforce and the community in general, even if they do not complete a major in psychology. Psychology provides generic skills in critical analysis, problem-solving and communication and also promotes the following specific skills:

- knowledge of generalisable psychological principles
- ability to reject implausible and unsubstantiated psychological claims
- ability to explain and predict behaviour according to known principles
- ability to collect and interpret evidence to explain and predict behaviour in novel situations
- ability to design interventions to promote positive behaviour and minimise negative behaviour
- understanding and tolerance of psychological diversity (children, elderly, other cultures, disabled and those with disorder)

Greater dissemination of psychological skills and knowledge in the community enhances the effectiveness of individuals in their work, their relationships with family and friends, and their management of health, finances and risk. It also generates a preparedness to adapt to changing circumstances and respond to new evidence and information.

The first two questions posed in the document entitled *Review of the impact of the Higher Education Support Act 2003* are:

1. **Do the current funding clusters adequately reflect broad discipline relativities?**
2. **Are individual disciplines placed in appropriate clusters? Are there any undesirable consequences of the placement of specific disciplines in particular clusters?**

We believe that in both cases the answer for Psychology is ‘no’. The current position in Cluster 5 is inappropriate for laboratory-based teaching which is essential for teaching psychology as a scientific discipline and is inconsistent with all other disciplines that are taught in this manner.

<u>Why psychology should be funded at the same rate as other sciences.</u>

Psychology is a natural science that attempts to provide a sound evidence base for the understanding of human behaviour. In order to achieve this end rigorous empirical techniques are applied and these methods must be taught to all undergraduates studying the discipline. The Australian Psychology Accreditation Council (APAC), the body that evaluates all psychology undergraduate and post-graduate programmes in Australia, mandates the provision of laboratory based training to help students develop the practical skills required to analyse behavioural questions, develop appropriate methods for answering those questions and to then apply these techniques in a variety of settings. The students who progress to postgraduate levels of study learn extra evidence-based techniques that can be applied in professional psychology domains such as clinical, organizational and educational settings

to name just three major areas.

Many undergraduates study psychology for only one or two years of their degrees. The provision of a rigorous empirical base from the first year of psychology provides many students who do not study other scientific disciplines with an introduction to scientific analysis and critical thinking which prepares them to be careful consumers of assertions regarding human behaviour. This training has broad application in almost all areas of human activity but requires the provision of hands-on experience of a variety of psychological research methodologies in relatively small laboratory groups. These needs are common to all scientific disciplines but Psychology stands alone in being placed in a much lower funding cluster.

This low level of funding threatens to compromise Australian universities' ability to maintain internationally competitive undergraduate programmes. Student: staff ratios in most schools of psychology are considerably higher than those in other science disciplines making it difficult to sustain the small laboratory classes required for effective research training. Just as importantly, most schools are unable to provide the multiple sets of equipment required to teach such classes and are thus forced to either provide internet demonstrations or a single set of equipment for class demonstrations comprised of relatively passive viewing of equipment usage rather than hands-on experience. This problem has been exacerbated in the last decade by the rapid development of the brain sciences and psychology's integral role in that development.

Schools of psychology attempt to provide the solid empirical base upon which the professional application of psychology is grounded. They also need to train students to contribute to the ever-increasing body of research evidence on human behaviour. These are the people most likely to engage in research addressing behavioural issues of critical significance to the Australian community such as how to manage the consequences of ageing, climate change and the range of threats to public health faced by modern society.

The honours degree plays a critical role in allowing students to become individually responsible for a significant piece of research and to develop the skills required to be either an evidence-based practitioner or research scientist. It is the honours degree that is responsible for the high reputation of psychologists in the workplace as evidence-based practitioners with the skills required to investigate the causes of human behaviour and develop effective interventions to modify maladaptive behaviour and promote pro-social behaviour in wide variety of domains.

To attract students to do research in cutting edge areas, they need to be exposed to strong laboratory experiences as undergraduates. Some areas such as behavioral neuroscience and perception require expensive animal facilities or elaborate optical and eye-movement measuring equipment and state of the art graphics capability. For applied research, equipment such as driving and flight simulators are desirable. Neuroimaging technologies are an increasingly important component of current research in cognitive and social

psychology. Psychology schools overseas have functional MRI facilities for brain imaging which are widely used in a variety of areas of psychological teaching and research. No Australian school is in such a position and the few that do have access to such a scanner mostly access devices that are primarily for clinical use and therefore not available during normal working hours. Exposure to other moderately expensive items of equipment such as psychophysiological recording systems and eye trackers is also precluded in most Australian universities at the current funding level. There are also very few that are able to support the animal research facilities required to provide training in behavioural neuroscience.

Australia is beginning to fall behind international standards in experimental psychology and in multidisciplinary scientific initiatives that include psychology, such as behavioural neuroscience. Newer Universities in Australia can't afford to build the basic infrastructure required to teach psychology as a science discipline and older universities have increasingly ageing infrastructure or they are making the difficult decision to close particular types of research facilities, e.g. very few now maintain animal laboratories even though animal research has played a central role in the discipline and, indeed, is commonly associated with psychology by the general public, whether it be in determining the language capabilities of other apes or using rats in mazes to study the processes of learning and memory. The loss of such facilities precludes a good deal of work on psychopharmacology, addiction, drug abuse, anxiety, eating behaviour and the impact of brain injury. Recognising the effects of reduced funding, many of Australia's best young researchers are going and remaining overseas. Psychology needs to be funded as a science in order to maintain its core capability for research and training but it currently is not funded at this level in this country.

Australia is fortunate that Psychology has adopted a rigorous accreditation system for its degrees which has helped ensure an appropriate breadth of training and a solid empirical base to the discipline. It is the quality of the undergraduate degree, and the requirement for a research-based honours degree as a prerequisite for all post-graduate training in psychology, that has allowed Australia to develop two year professional programmes and three year PhD programmes (unlike the USA which has a much less rigorous undergraduate training and much longer post-graduate degrees). Many of the teaching requirements required for accreditation are characteristic of all science disciplines and Psychological science is no different, except that it is placed in a much lower funding cluster at the undergraduate level. The future of an internationally competitive psychology workforce hinges on there being a change to this funding level.

3. Should the number of clusters change? What would be the advantages or disadvantages? If the number of clusters were to change, how should disciplines be grouped within those clusters?

Psychology needs to be placed in a funding cluster commensurate with its scientific base. It may well be the case that, with advances in computer technology, the funding differential currently embodied in the cluster model is

too great. Since the costs of individual computing items have declined, most science disciplines now use such technology as a basic teaching tool. This may justify a move to fewer clusters with less difference in the funding levels between clusters.

4. **How have higher education providers used funding under specific measures, such as the additional funding for nursing units of study that was introduced in BAF to assist with the costs of supporting clinical training?**
5. **Should the current standard pipelines for most new Commonwealth supported places across most disciplines be kept? Does it unduly constrain providers in the provision of new places?**
6. **If the current model were to be largely retained, should any further exceptions be made?**

We make no specific response to these questions from the review paper, except to note that the Australian Psychological Society has prepared a submission including justification for increased funding of clinical and other postgraduate training and we concur with the views expressed in their submission.

We are grateful for this opportunity to comment on what we believe are critical issues facing the teaching of the discipline of Psychology within this country. Australia has had a very strong reputation for producing excellent graduates and researchers in this field but funding over the last decade has provided inadequate support for that training. Increased funding is essential if we are to maintain our international competitiveness. Within the short time frame available for the submission process it was not possible to collect comprehensive benchmark data. However, the Psychology Foundation represents the leading Schools of Psychology within the country and is therefore ideally placed to monitor changes over time that impact on international competitiveness. We hope you find our views helpful in your deliberations.

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medical student loading—the amount of medical student loading worked out under the Commonwealth Grant Scheme Guidelines for those places; and

(d) if the allocation has specified under paragraph 30-10(3)(c) a number of Commonwealth supported places that have an enabling loading—the amount of enabling loading worked out under the Commonwealth Grant Scheme Guidelines for those places.

33-10 Commonwealth contribution amounts

The ***Commonwealth contribution amount***, for a place in a *funding cluster, is:

Commonwealth contribution amount

Item	Funding cluster	Commonwealth contribution amount
1	Law	$1,442
2	Accounting, Administration, Economics, Commerce	$2,371
3	Humanities	$3,995
4	Mathematics, Statistics	$4,718
5	Behavioural Science, Social Studies	$6,342
6	Computing, Built Environment, Health	$7,064
7	Foreign Languages, Visual and Performing Arts	$8,687
8	Engineering, Science, Surveying	$11,757
9	Dentistry, Medicine, Veterinary Science	$14,738
10	Agriculture	$15,667
11	Education	$6,970
12	Nursing	$10,189

Note: Commonwealth contribution amounts are indexed under Part 5-6.

*To find definitions of asterisked terms, see the Dictionary in Schedule 1.

medical student loading—the amount of medical student loading worked out under the Commonwealth Grant Scheme Guidelines for those places; and

(d) if the allocation has specified under paragraph 30-10(3)(c) a number of Commonwealth supported places that have an enabling loading—the amount of enabling loading worked out under the Commonwealth Grant Scheme Guidelines for those places.

33-10 Commonwealth contribution amounts

The ***Commonwealth contribution amount***, for a place in a *funding cluster, is:

Commonwealth contribution amount

Item	Funding cluster	Commonwealth contribution amount
1	Law, Accounting, Administration, Economics, Commerce	$1,674
2	Humanities	$4,647
3	Mathematics, Statistics, Behavioural Science, Social Studies, Education, Computing, Built Environment, Other Health	$8,217
4	Clinical Psychology, Allied Health, Foreign Languages, Visual and Performing Arts	$10,106
5	Nursing	$11,280
6	Engineering, Science, Surveying	$14,363
7	Dentistry, Medicine, Veterinary Science, Agriculture	$18,227

Note: Commonwealth contribution amounts are indexed under Part 5-6.

33-17 Reductions in assistance for higher education providers failing to meet certain requirements

(1) A higher education provider's *basic grant amount for a year is reduced if:

*To find definitions of asterisked terms, see the Dictionary in Schedule 1.