Psychology

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*“Psychology is a diverse discipline, grounded in science, but with nearly boundless applications in everyday life. Some psychologists do basic research, developing theories and testing them through carefully honed research methods involving observation, experimentation and analysis. Other psychologists apply the discipline's scientific knowledge to help people, organizations and communities function better.”*

*(APA, 2019)*

# Introduction

Psychology is one of the most popular undergraduate degree courses around the world. Pathways through psychology vary somewhat depending on the national context; for example, in the UK, students study a general undergraduate degree, usually accredited by the British Psychological Society (BPS). They then pursue specialised postgraduate training to become a professional psychologist, or enter a wide range of non-discipline-specific graduate employment.

As this might suggest, psychology is versatile, and equips students with sophisticated scientific skills, alongside the skills more typically associated with social science or humanities subjects (QAA, 2016). For example, psychology develops numeracy and information technology skills alongside critical thinking, communication and interpersonal skills. This ensures that psychology is likely to remain popular in the foreseeable future, as it has considerable value for employability and for society, but also has implications for the way it is taught.

# The undergraduate psychology curriculum

Psychology, to some extent, has different emphases depending on where you are in the world. For the purposes of this chapter, we will focus on psychology as it is taught within Europe, the US and Australia, using the UK as our prime example. However, in some parts of the world, particularly in Asia and Africa, psychology can be more therapeutically oriented than the perspective described here. For more information on cultural variations in psychology education, you may wish to explore comparative international books (for example, Rich et al, 2018; Hakala, Nolan and Landrum, 2019).

In the UK and similar contexts, the undergraduate psychology curriculum generally requires study of ‘core topics’ (QAA, 2016; BPS, 2019), specifically:

* Biological psychology;
* Cognitive psychology;
* Developmental psychology;
* Individual differences;
* Social psychology;
* Research methods and data analysis (quantitative and qualitative);
* Conceptual and historical issues in psychology.

In the UK, each of these topics must be covered and assessed for a programme to be accredited by the BPS, and the course must allow students to demonstrate both their broad knowledge of psychology and their ability to work with specialist and detailed knowledge. Increasingly, students must make links across sub-disciplines, synthesising their understanding of issues from a range of different perspectives. For example, in a module relating to mental ill health, students may integrate biological, cognitive, social and developmental explanations of psychopathology. In many countries, students must complete an empirical final year research project, demonstrating their ability to conduct independent research.

Traditional psychology curricula frequently include specific modules on each of the core topics; however, psychology as a discipline is changing, and modern curricula are incorporating increasingly applied perspectives (Hulme and Kitching, 2015) around the following themes:

## Employability

One important shift within psychology (and other subjects) has been a recognition of the undergraduate degree as a preparation for a broad range of employment. Approximately 15% to 20% of psychology graduates in the UK and in Australia pursue training and careers in professional psychology (Cranney et al, 2019), with the remainder pursuing diverse employment, such as health and social care, criminal justice, education, and marketing careers. Increasingly, there is pressure from students, parents and government to identify the employability benefits of psychology. This has been exacerbated by university league tables looking at short-term employability measures, given that, in psychology, a graduate may take five or more years to enter their chosen career (Morrison-Coulthard, 2016). Psychology providers responded, for example, with placement years (e.g. Aston University, Keele University); discrete placement modules (e.g. Huddersfield University); or delivering modules on occupational psychology (e.g. Cardiff Metropolitan University, Glasgow Caledonian University). You can find a collection of case studies focusing on developing employability in Reddy, Lantz and Hulme’s (2013) online *‘Employability in Psychology’* guide.

## Intercultural competence and internationalisation

Traditional psychology has been accused of cultural bias, focusing on WEIRD (Western, educated, industrialised, rich and democratic) countries. However, psychology students are diverse, and their diverse cultures should be represented within the curriculum. Graduates will work in a multi-cultural, globalised society. Psychology is well placed to facilitate this, and there is growing realisation that we must ‘decolonise’ the curriculum, by including non-WEIRD research from cultures other than our own. Students themselves provide a useful insight into cultural diversity, and it is worthwhile encouraging discussion of their understandings of psychological theory in the context of their own upbringing and cultural knowledge, especially if culture is broadly defined to include issues such as gender and socioeconomic status. International partnerships are helpful: consider inviting international research collaborators to give a ten-minute talk in lectures, using conferencing technology, or establishing an online student collaboration on project work between two international cohorts. For curriculum ideas, you may enjoy the practical ideas outlined in *‘Culture Across the Curriculum’* (Keith, 2018), which addresses each of the core curriculum areas, as well as the professional subdisciplines of psychology (such as clinical and health psychology).

## Psychological literacy

Psychology provides explanations for why things happen, and applications that can help us to solve problems. The concept of psychological literacy, “*the capacity to intentionally utilize psychological science to successfully pursue personal, professional and societal goals*” (Cranney and Dunn, 2011), has been embedded within the subject descriptors from the APA (US and worldwide), the BPS (UK), and the APS (Australia):

*“Psychological literacy means:*

* *Having a well-defined vocabulary and basic knowledge of the critical subject matter of psychology;*
* *Valuing the intellectual challenges required to use scientific thinking and the disciplined analysis of information to evaluate alternative courses of action;*
* *Taking a creative and amiable skeptic approach to problem solving;*
* *Applying psychological principles to personal, social, and organizational issues in work, relationships and the broader community;*
* *Acting ethically;*
* *Being competent in using and evaluating information and technology;*
* *Communicating effectively in different modes and with many different audiences;*
* *Recognising, understanding, and fostering respect for diversity; and*
* *Being insightful and reflective about one’s own and others’ behaviour and mental processes.”*

(McGovern et al, 2010, p11)

These attributes and skills describe how psychology can be applied to improve one’s own life, employability, and global community. Some psychology departments are increasing student engagement and gaining recognition for psychologically literate curricula; for example, the University of Stirling won the 2014 BPS Award for Innovative Programmes (BPS, 2014). Some departments take students into authentic community settings (for example, see UNC Charlotte, 2019). Jacky Cranney’s website (Cranney, 2019) offers a host of resources from around the world, further reading and information on psychological literacy.

In addition to thinking about students’ psychological literacy, there is increasing awareness of psychological literacy in academics. Several authors suggest that psychology educators need to apply psychology within their own learning and teaching practice (McGovern, 2011; Hulme, 2014; Hulme and Winstone, 2017; Winstone and Hulme, 2017). This might include teaching according to cognitive psychological theory (see Putnam, Sungkhasettee, and Roediger III, 2016), and actively engaging with issues around equality, diversity and inclusion within the classroom.

## Sensitive topics

Psychology deals with human life, from pre-birth to death, including topics relating to social relationships, addictions, sexuality, brain functions, and mental illness. Many students find these topics engaging, in part because they are relevant to their everyday lives. In the UK, the BPS (2019) is increasingly encouraging psychology departments to embed teaching about mental health within the undergraduate curriculum, to improve the mental health literacy of psychology graduates, and so deliver mental health improvements across society. Teaching sensitive topics can be immensely beneficial (Hulme and Kitching, 2017).

However, psychology is known to recruit significantly higher numbers of students with mental ill health, chronic illnesses and disabilities than many other subjects, and thus teaching about such topics requires inclusive teaching and assessment practices (Craig and Zinckiewicz, 2010). Some students experience distress, as they try to learn scientifically about a topic that is personal in nature (Hulme and Kitching, 2017). It helps to prepare students for such eventualities by encouraging them to:

* Consider optional module choices carefully;
* Look ahead to identify sensitive topics for them;
* Remember that understanding sensitive topics from an academic perspective is an important part of personal development;
* Seek help from student support services (remembering that psychology lecturers are not usually clinical practitioners or counsellors);
* Speak to their tutor or lecturer in advance about areas of concern and ways of coping

(Hulme, 2018).

Almost any topic can prove sensitive for a student, so consider language and pedagogic approach carefully. Be alert to issues, and be approachable. However, it is not your job to counsel students, so familiarise yourself with available institutional support systems.

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| Case study x.1 Bringing students to the ‘dark side’ of psychology Psychology deals with some of the most difficult aspects of human behaviour. How can ordinary people commit atrocities during times of war? Numerous classic psychological studies, such as those by Milgram, have attempted to explain such horrors as the holocaust of the Second World War, and genocides such as those committed by the Khmer Rouge in Cambodia, through a social psychological lens.  Students may hear such stories repeatedly during their education, and from the media, and so may become desensitised. They can become distanced from the important psychological lessons that can be learned from such events. Helping students to make a connection to such events that is personally meaningful to them, and may evoke an emotional response, can really help to ‘bring psychology to life’ and engage them with theory.  For this reason, the School of Psychology at Bangor University, Wales, organises field trips to psychologically-relevant locations, such as Auschwitz in Krakow, or Red Square in Moscow. These trips enable students to understand the link between psychological concepts and real-world behaviour and events, in a way that pushes them to confront reality, rather than from an abstract academic perspective.  Of course, it is essential that we must consider not only the usual risks associated with taking students out of the safety of a university classroom, but also the emotional risks, as we focus on potentially dark, distressing and disturbing content. We manage this carefully through pre-trip briefing events, getting to know our students and understanding their concerns and expectations, monitoring and providing support during the trips, and convening a post-trip debriefing meeting.  Our field trips help us to emphasise the importance of being able to apply psychology to everyday life, and provide students with a unique opportunity to immerse themselves in psychology. In feedback, they describe the experience as ‘life changing’. Throughout the trip, tutors constantly refer to relevant research and theory, and encourage the students themselves to do the same. This enables us to enhance our own psychological literacy alongside our students, and helps us to learn together, as a community.  *Professor Fay Short*  *Dr Tracey Lloyd*  *School of Psychology, Bangor University* |

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| Interrogating practice  * Do you teach diverse perspectives on psychology? * How do you develop and model psychological literacy in your own learning and teaching practices? |

# First-year undergraduate psychology

Many new students took psychology at school or college, enjoyed it, and so pursued their studies at university. However, most university courses do not require students to have prior psychology qualifications, and around 30% of students have never previously studied the subject. Even for those who have, there are different exam board specifications, meaning that students may have very different prior learning experiences. The first year of most university degree programmes, therefore, covers a broad introduction to the subject, intended to bring all students to a similar level of knowledge and understanding of psychology. This brings two challenges:

1. Students who have studied psychology previously can find the content repetitive, and may disengage;

2. Students who have not studied psychology previously may feel at a disadvantage in comparison to their peers.

It can help to know about students’ pre-university qualifications (for example, talk to local A level teachers about what and how they teach, or look at A level specifications online), and to teach a refreshed curriculum. For example, most pre-university courses include work on Milgram’s famous social obedience experiment; if obedience is in your curriculum, consider stretching students with more recent virtual reality replications (Slater et al, 2006; Kozlov and Johansen, 2010), rather than focusing on the ‘classic’ study.

Psychology students enter the first year of their psychology degree with different expectations of the nature of psychology and of university study, and bring different sets of pre-existing skills to the classroom. There may be a mis-match between expectations and the reality of studying psychology at university (Winstone and Bretton, 2013). Typically, students may not appreciate that psychology contains content relating to biological science, computing, or statistics. At the same time, students must navigate a large educational institution, adapt to different methods of teaching, learning and assessment, cope with large class sizes and more difficult work, and reshape their academic skills. Hulme and De Wilde (2015) suggested, for example, that the nature of ‘critical thinking’ and of ‘independent study’ comes as a shock to most new undergraduate students. This may be particularly true for students who are the ‘first in family’ to attend university (O’Shea, 2016).

The transition to university is a time of personal and social development. It is useful to be aware of the psychological processes that surround life transitions, and to help students to recognise that moving to university is just one of many transitions. Students can draw on previously successful strategies - for example, those used when moving from secondary school to sixth form – to facilitate their transition into university (Winstone and Hulme, 2019), and later into postgraduate study or employment.

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| Case study x.2 Applying psychology to supporting student transition to university Making the transition to university can be a time of substantial change for students, and, for some, can be psychologically challenging. Successfully making the transition requires students to be adaptable: to make adjustments to their thoughts, behaviours, and emotions in the face of new, changing, or uncertain situations or events (Martin, Nejad, Colmar, and Liem, 2012; 2013).  At Coventry University, UK, and at the University of New South Wales, Australia, a team of psychology researchers (Collie, Holliman and Martin, 2017; Holliman, Martin and Collie, 2018; Holliman et al, 2018) have been studying whether adaptability is predictive of students’ engagement with their university studies and of their subsequent attainment. They measured students’ adaptability levels (Martin et al., 2013) on entry to university, and investigated students’ learning behaviour and success within higher education. They found that high scores on adaptability were associated with more positive attitudes to learning, greater commitment to students’ subject of choice, higher student satisfaction, more academic persistence, and reduced ‘self-sabotage’ (i.e., finding ways to reduce their own chances of success in order to provide a later excuse for under-performance).  It could be tempting to frame a lack of engagement or a poor transition experience as a deficit in student adaptability, but adaptability is a changeable state, and as such interventions can help students to develop adaptability. A key outcome of psychology education is to promote self-awareness (QAA, 2016; McGovern et al, 2011), and so devoting some curriculum time to learning to develop adaptability through self-regulating emotion, cognition and behaviour is worthwhile. Not only does this approach support students in making the transition to university, but also recognises that their academic and professional journey will involve multiple periods of change, uncertainty and further transition, and will help to prepare them for life beyond graduation.  *Dr Andrew Holliman, School of Psychological, Social and Behavioural Sciences, Coventry University*  *Dr Rebecca Collie and Professor Andrew Martin, School of Education, University of New South Wales* |

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| Interrogating practice    * Reflect on the first-year undergraduate curriculum in your own department. To what extent can it engage those who are new to psychology and those who have studied it before? * How much do your students understand about the differences between university and prior education? For example, do they know how to take notes? Are they aware of your institutional marking scales, or of how to undertake independent study? |

# Research Methods

Psychology’s empirical roots are evident when the coverage of research methods within the curriculum is considered. Typically, a psychology degree programme in the UK will contain four research-focused modules and a final-year empirical research project, meaning that around a quarter of the degree programme might focus on research methods. A strong emphasis is placed upon research ethics; in the UK, for example, students must comply with the BPS code of ethical conduct (BPS, 2018). The focus on research can surprise some students; those who are interested in studying the human elements of psychology can be challenged by statistics (Field, 2014), while others can find qualitative methods at odds with the hypothetico-deductive approach taught elsewhere in psychology (Gibson and Sullivan, 2018).

## Teaching quantitative research methods and statistics

Most psychology undergraduate courses cover experimental design, survey methods, measures of central tendency (such as mean and standard deviation), and parametric and non-parametric statistics, including multivariate analyses. Until recently, most departments used the statistical software SPSS, with practice varying around whether students were taught to calculate statistics by hand or only using the software.

Quantitative research methods and statistics have long been recognised as a ‘hard to learn, hard to teach’ area of the psychology curriculum. This may be a result of declining mathematical skills within the student population (Le Fevre, Douglas and Wiley, 2016). Some students revel in the rigour of statistics, but others experience maths anxiety. Engaging both groups with statistics can be challenging, although there are pedagogic approaches that help, including incorporating humour into the classroom, allowing students to make mistakes, and making statistical learning relevant to everyday life (Field, 2014).

Recently, there have been shifts in quantitative psychological research, with a focus on analysis of big data (Hulme and Kitching, 2015) and increased awareness of the replication crisis. The Open Science Collaboration (2013) reported pressure to conduct novel research and to publish new studies with significant findings, leading to low replication of psychological studies, and concerns that published work may represent ‘false positives’. The psychological research community is working towards reproducible science, facilitated by recognition of the importance of open science, whereby journal articles are published in free-to-access sources, and data are made freely available.

Debates around replication, reproducibility and open science have challenged the research community, and have now turned to the need to teach about them. Departments are moving towards requiring students to pre-register their final year projects on an open science platform, and introducing concepts such as Bayesian statistics into the curriculum. The University of Bath is helping to pioneer the delivery of innovative open science practices within psychology (Button, 2018). Likewise, case study x.3 articulates the importance of students engaging with ‘messy data’, and the need to ensure that teaching teams adopt consistent pedagogical and research practices.

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| Case study x.3 Revising undergraduate research methods: Teaching for rigour and replication At Glasgow, in the context of open science, replication and replicability, we reviewed and redesigned our research methods training across our undergraduate psychology programme.  A key element has been to move all data analysis training to the statistical programming environment R. Because R is a programming language, analyses take the form of a sequence of commands stored in a script, and are thus inherently reproducible. Learning R requires development of programming skills, which can be challenging, but are beneficial for employability. In addition, R is free to download, allowing students to practice outside the classroom.  We aim to encourage confidence with messy data, ensuring that all learning activities are reproducible, from data import to the generation of a report. Students must understand basic data before beginning analysis, to give them the skills to explore their data.  These changes have encouraged critical thinking, independence, and helped to develop informed, transparent and thoughtful researchers. Throughout the curriculum, new lectures embedded practical examples and had a focus on highlighting contemporary debates within the field (replication/reproducibility/p-hacking etc.).  We introduced weekly structured homework activities that engaged students in data analysis, and used open source community chat forums for questions. These activities were paralleled with in-house staff training in R and pedagogical approaches to teaching. We see an enhanced student-centred learning experience in a core psychology area that they traditionally find difficult to access:  *“I have never programmed computer code in my life. I decided to try R as I believe in open source knowledge; despite my fears of using it….this is the most I have challenged myself academically since I arrived at university and has increased my confidence for the rest of the course.”*  It has been inspiring to see students rise to the challenges and to witness their enhanced learning, motivation and engagement.  *School of Psychology, University of Glasgow* |

## Teaching qualitative research methods and analysis

For qualitative research, students are taught to collect text-based, visual or verbal data, from open surveys, online discussions, observations, images, interviews and focus groups, and are trained in transcribing, coding and analysing data using techniques such as thematic analysis, grounded theory, or discourse analysis. Qualitative methods are embedded within most subject requirements (e.g. BPS, 2019), but may receive relatively little class time, as a result of a persistent ‘quantitative culture’ (Gibson and Sullivan, 2018). Increasingly, however, qualitative methods are being re-established within core psychology: a case study from Aston University, demonstrating how they have incorporated qualitative methods across their entire undergraduate psychology degree is provided by the BPS (2017).

There are challenges in teaching qualitative psychology. Some students resist content that they perceive as ‘less scientific’ than quantitative methods, and need support to shift their thinking away from hypothetico-deductive models of science. Some students embrace qualitative psychology because it is ‘not statistics’, without appreciating the critical and complexity of qualitative research. However, the benefits include developing students’ interpersonal communication, active listening, reflection, and interpretation. For students aspiring to graduate careers outside psychology, competence in interviewing and qualitative data analysis can be invaluable, especially for careers in human resources or market research. Likewise, self- and other-awareness are important components of employability and psychological literacy.

A range of online resources, including original data sets, videos and guides, is available from Sullivan and Forrester (2019a; see also 2019b). The BPS hosts the Qualitative Methods in Psychology section (QMiP, 2019), which holds conferences and workshops, and publishes a regular bulletin for members.

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| Interrogating practice  * Do you teach research methods (quantitative, qualitative, mixed) in a way that reflects developments in real psychological research? * How can you make research methods meaningful to students? |

# Overview

Just as higher education is changing, psychology is evolving, and so are the methods of teaching it. Psychology is a fascinating subject that requires its students, and its teachers, to maintain a scientific and objective approach to some of the most complex aspects of human nature and behaviour, whilst at the same time developing interpersonal skills, self-awareness and reflexivity, being able to apply theoretical knowledge of psychology to solve problems in their own lives and in the world around them, and to investigate human behaviour empirically. Facilitating these skills and attributes requires us to draw upon the wealth of evidence within our discipline and the pedagogic literature, and to bring the current debates of psychological research into our classrooms.

# Further Reading

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