From undergraduate students to early career researchers

The purpose of an undergraduate education

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Expectations associated with attaining an undergraduate degree have changed drastically over the last decade; society as a whole is increasingly questioning the purpose of an undergraduate degree. The rise of AI and associated disruptions to entry-level employment have furthered these challenges. While an undergraduate degree is associated with acquiring disciplinary knowledge, many career paths do not follow within that discipline. Undergraduate degrees also facilitate the acquisition of transferable skills and self-development, as well as a enhance civic understanding. Here I detail the range of benefits associated with an undergraduate education, including recommendations for reframing the value of an undergraduate degree.
Keywords: *University purpose; Graduate outcomes; Transferable skills; Self-authorship; Democracy.*

Introduction

THE role of universities within society has changed drastically over time (Barnett, 2010, 2011, 2017; Bok, 2006; Boyer, 1990; Collini, 2012; Garisto, 2025; Willetts, 2017); global social, economic, and technological pressures are reshaping universities' role. For decades, universities have brought in people from other nations, but many governments are now imposing restrictions on student visas (Garisto, 2025; Gewin, 2025; Quach, 2025). Rising nationalism and inward political priorities have limited universities' ability to position themselves as protected spaces for free speech (Kinzelbach et al., 2025; Nayeri, 2025). Changes in student recruitment have led to financial pressures resulting in layoffs throughout the higher education sector (Leeming, 2024; Office for Students, 2025; Rowsell, 2025); mergers are being discussed as a means to improve stability and consolidate course offerings (Jeffreys, 2025; Penprase, 2024). Home students are under their own financial pressures with a cost-of-living crisis, forcing students to spread their time thin and work concurrently with their studies (Lewis, 2023; Neves et al., 2024; Smith et al., 2024). Lecturers teach to sparsely filled rooms as engagement and attendance plummet (Grove, 2024), as have students' reading abilities (Horowitch, 2024). The value of an undergraduate degree as a direct pathway to employment is eroding (Willetts, 2025; Wingard, 2022, 2025), particularly as the rise of AI technologies leads to the elimination of some entry-level roles (Smith et al., 2024). The value of expert knowledge itself has come under fire (Nichols, 2024; Russell & Patterson, 2025). A now common refrain is, ***'what is the value of an undergraduate degree?'***

In the 1950s, only about 4% of young adults aged 25 to 34 in the UK had attained an undergraduate degree (Committee on Higher Education, 1963); in the US this was also only about 8% (NCES, 2024). In the 1970s, UK attainment was still under 10% of the cohort, while around 16% of young adults in the US had completed an under-

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graduate degree. Universities at this time have been described as being structured for the elite, and began transitioning to universities for the masses (Bok, 2003; Schofer & Meyer, 2005; Trow, 1973). By the year 2000, 29% of young adults aged 25 to 34 in the UK had completed an undergraduate degree (US: 38%; Canada: 48%) (OECD, 2025). At the same time, the UK government set a national goal to expand participation, targeting 50% of young adults under 30 (Carvel, 1999). As of 2025, the percentage of 25- to 34-year-olds who have achieved tertiary education (or higher) is 60%, with similarly high rates in many countries (US: 52%; Canada: 69%) (OECD, 2025). While attainment of tertiary education once made an individual stand out, the relative ubiquity of such degrees today has diluted their distinctiveness when seeking employment.

Revisiting the fundamentals

What is the role of universities in society? What are the expectations associated with graduating with an undergraduate degree? These issues are not unique to the UK and the discipline of psychology, but are international and interdisciplinary.

While many university benchmarks evaluate employment outcomes as the goal of an undergraduate degree, this needs to be reframed. Universities provide three broad roles in society: conducting research, sharing knowledge with society, and educating students. The emphasis herein will solely be on the third, undergraduate education. Even within this role, four facets should be considered:

1. Undergraduate studies involve the education of **disciplinary knowledge,** for example, psychology, chemistry, or history;
2. Undergraduate students develop t**ransferable skills** that are valuable in a range of employment settings;
3. Provide a safe and supportive environment for students to develop their identity (i.e. **self-authorship**); and
4. Provide a shared environment for students in different disciplines to interact and develop **civic understanding.**

Responding to the rise of AI

The rise of AI is not just a new technological pressure, it demonstrates how narrow our current framing of the purpose of an undergraduate education has become. To combat the erosion of conventional teaching and evaluation practices from the influence of AI, a range of solutions have been proposed. Some suggest universities should change assessments to hinder AI access, proposing 'cloisters' protected from AI (Ferguson, 2025). I take the opposite view: universities need to connect more with society, not develop cloisters or have strict restrictions on AI use. Alternatively, universities could shift further towards examinations, particularly oral examinations (Eachempati et al., 2025). In industry settings there are instances where an employee needs to provide a perspective based on their topic knowledge and expertise, either with or without specific advance preparation. Critical evaluation of AI-generated text and online information, and misinformation, is useful both as a transferable skill and for self-development. Assessments should cultivate judgment with and about AI, centred on three principles: (i) transparency: declare and justify AI use; (ii) attribution: provide sources and document AI-assisted steps; and (iii) oral defence: brief viva-style questioning to probe understanding.

General undergraduate training, described in facets 2 and 3 (transferable skills and self-authorship), provides students with communication, organisation, and interpersonal skills–underlying goals that pervade all disciplines. Moreover, humanities degrees provide insight into societal values and STEM degrees teach fundamentals of science. Highlighted in facet 4 (civic understanding), we need citizens with varied domain knowledge to work together. For instance, some will develop new AI tech-

nologies, while others will work alongside them with humanities expertise (Berdahl et al., 2024; Nussbaum, 2010). AI is replacing some entry-level jobs but is only increasing the importance that individuals and societies think deeply about their sources of information, values, and future directions.

Undergraduate education as skill training

Society shifted towards knowledge workers and human capital, alongside the shift for undergraduate degrees becoming more common in young adults. A common proposal is that undergraduate degrees should have more emphasis on skill training (e.g. British Academy, 2017; IFF Research, 2024; National Association of Colleges and Employers, 2022), in line with recent government recommendations (UK Government, 2025). In a report by Capranos and Magda (2023), employers identified key skills: top required soft skills were problem-solving, time management, and adapting to change; the most in-demand hard skills were strategic thinking, digital communication, and project management. Undergraduate education includes development of a range of abilities, including scientific literacy, communication, collaboration, numeracy, and reasoning (Clemmons et al., 2020; Hanstedt, 2024; Hosseinioun et al., 2025; Roizen & Jepson, 1985). Universities need to more directly support undergraduates in understanding the value of their skills, as well as how these skills can be positioned in job applications (e.g. Barber et al., 2021; Galloway, 2017). Several examples of general skills are explored in a later section.

Undergraduate education as self-development

A focus on skills is necessary but not sufficient. Universities need to be valued for more than skill training as a prerequisite for employment. Universities were not established to be a direct path for improved employment outcomes for undergraduate students shortly after graduation (see Claeys-Kulik et al., 2025). Rather, they are intended to provide a safe environment for students to develop their interests and mature. This opportunity to develop independent thought and exposure to diverse worldviews is central to the ethos of universities, for the opportunity to think critically, and to the basis of democracy (Biesta, 2013; Detweiler, 2021; Dewey, 1916; Nussbaum, 2010; Pasquerella, 2022; Patton et al., 2016). A 'squiggly' career path and self-discovery should be encouraged, rather than a direct path to employment that provides the highest annual income (Madan, 2024). As described in the recent UK Curriculum and Assessment Review (2025), '[e]ducation is inherently valuable and important for its own sake, but it also plays a crucial role in supporting individual success, in providing young people with the necessary knowledge and skills to build a prosperous economy and flourishing civil society, and in promoting social cohesion and democracy.'

In the UK, universities are closing degree programmes that have previously run for decades, particularly those associated with the arts and humanities (Clarke, 2025; Lees et al., 2025). In a recent speech, Julia Black (2025), president of the British Academy, spoke against these targeted cuts and instead championed more global mobility, international collaboration, access to education, and freedom to express ideas. While the value of these disciplines is often questioned, arts and cultural engagement have been shown to have benefits to physical and mental health, as well as to a sense of purpose and meaning more broadly (Bone et al., 2023; Fancourt et al., 2023; Siegesmund, 1998; Tay et al., 2018). In contrast to the situation in the UK, Chinese universities are offering courses for senior citizens with the goal of building a society of lifelong learning (Phillips, 2017). While there are movements for lifelong learning in the UK (e.g. University of the Third Age), these activities are not directly aligned with and supported by universities.

Undergraduate education as a vehicle for learning how to think

Cognitive psychology is uniquely suited to address these particular two facets, by viewing the purpose of undergraduate education as a vehicle for skill and self-development. While several skills were briefly listed above – and those are valuable to highlight in job applications – a handful of abilities are more central to the value of an undergraduate education. As examples, benefits include improvements to critical thinking, perspective taking, and self-authorship. Together, these abilities reshape how graduates interpret information, relate to others, and make decisions; benefits that extend well beyond any single job role.

Critical thinking is centred on reasonable reflective thinking related to deciding what to believe and how to act (Dewey, 1930; Ennis, 1991). This ability is a well-studied and relatively domain-general ability and associated with a large literature of improvement through undergraduate studies, as evidenced through several literature reviews and meta-analyses (Abrami et al., 2008, 2015; Huber & Kuncel, 2016; Pithers & Soden, 2000). Thinking deliberately, reflecting, and developing one's own views has long been known to be an important ability for society and democracy (Dewey, 1916; National Commission on Excellence in Education, 1983). However, critical thinking has become particularly important in contemporary times, as society has become polarised and misinformation and AI-generated texts have proliferated over the internet (Fishkin et al., 2021; Kahan, 2017; Kahan et al., 2012; Redaelli et al., 2025; Schmid & Betsch, 2019). Class activities to practice behavioural interventions, scepticism, and deliberation can be used to particularly train critical thinking (Cascio, 2017; Munro & Behlen, 2017; Phillips & Bond, 2004; Schmaltz & Lilienfeld, 2014).

Perspective taking is another cross-discipline ability improved by undergraduate education. This ability represents one's ability to understand others' perspectives and is closely related to theory of mind, empathy, and cross-cultural understanding (Leijenaar et al., 2025). As examples, study abroad programmes and directed instructions can be used as activities to enhance perspective taking (Beussink et al., 2017; Engberg, 2013; Rockwell et al., 2019).

Self-authorship is a person's identity, including ideology, values, beliefs, ideals, and sense of self. Young adulthood involves a shift from external influence and validation to independence and self-identity. Engagement in the university experience facilitates self-authorship development (Baxter Magolda, 2001, 2007, 2014).

Several other abilities can also be improved by an undergraduate education and university experience, including creativity, teamwork, resilience, and conscientiousness (Bok, 2020). Some skills are less overt but become foundational to one's way of thinking and understanding the world. These include **systems thinking,** an understanding of complexity and interconnected relationships (Arnold & Wade, 2015; Doyle, 1997). Examples in psychology include understanding nature-nurture interactions or risk factors for mental health conditions. Additional higher-order capacities include metacognition skills (i.e. reflecting on one's learning and strategies) associated with **self-regulated learning** and **adaptability** (Boud et al., 1985; McCabe et al., 2021; Nolting & Geiss, 2024; Seli & Dembo, 2020).

What is the role of educators in all of this? While information is readily available online, this may be sufficient for some young adults, but not most. Universities are not just a setting to learn domain knowledge, but a safe environment for students to explore their interests, develop their identity, and mature as citizens (Baxter Magolda, 2001; Biesta, 2013; Nussbaum, 2010; Willetts, 2017). A job can teach employable skills, and the internet can be a source of knowledge,

but these are not substitutes for the role that universities hold within society as a formative environment.

Conclusion

Most agree that universities are a societal good and undergraduate training is worthwhile (Barnett, 2017; Berdahl et al., 2024; Duffy & Hillman, 2025; Fry et al., 2024; Willetts, 2017), but it is worth reflecting on the reasons why, and what we should and should not expect from them for both individual development and their role in society. Denness and Hopkins (2025) describe the problem well: 'While there are many potential measures of graduate outcomes, policymakers tend to consider it easier to measure empirical, observable data, such as graduate salaries, rather than complex, causal phenomena. Examples of the latter include how graduates have used their degree-level skills to advance in their career, or other more intangible benefits of degree study, such as measures of social value and contribution to the common good.' Universities need to re-evaluate their marketing strategy: Rather than emphasising 15-month employment outcomes and focusing on value-for-money of undergraduate education (see Fleming, 2021; Tomlinson, 2018), we need to help students articulate what they have gained from their degree (see Gerhardt & Montgomery, 2025).

Universities cannot guarantee immediate earnings; they can, however, reliably develop the four facets that make graduates knowledgeable and thoughtful citizens. Policy should therefore evaluate programmes with multidimensional indicators aligned to these facets, rather than surveys of employability and student satisfaction.

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