

# The merits of undergraduate student samples

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**Undergraduate student samples in psychological research are commonly critiqued as 'convenience samples'. However, they can also be ideally representative for certain research questions.**

A common critique of the generalizability of psychological research is that studies frequently rely on convenience samples of undergraduate students and that these samples are not representative of the general population. When combined with critiques of the globally atypical contexts in which most academic research is done<sup>1</sup> (for instance, at institutions in relatively wealthy, western, politically stable, predominantly English-speaking countries), the resulting outcome is scepticism regarding the replicability and universality of research findings. However, the reductive 'college sophomore problem'<sup>2</sup> overlooks ways in which undergraduate students are not merely convenient to researchers, but inherently interesting for certain psychology research questions.

Nearly every branch of psychological science can find aspects of the undergraduate student body that are of particular interest, whether considering traits or experiences that are common across all students or those found only among particular subgroups. Institutional and/or individual characteristics of undergraduates can be observed, studied in quasi-experiments or even manipulated (in collaboration with relevant campus constituencies). Thus, the particular context of undergraduate study provides specific advantages for psychological research. The distinctive spatial, temporal and cultural contexts of the undergraduate experience can be treated as control variables rather than mere coincidences.

### Studying undergraduates as students

Undergraduate students are engaged in learning and are therefore relevant for cognitive and educational studies of learning and memory. For instance, educational practitioners and cognitive scientists examining mnemonic processing can study how students encode and retrieve information in academic contexts. Researchers can also examine how to optimize these processes, including how instructors can best structure courses and classes to enhance student motivation and performance. Collaboration between researchers and university centres for teaching and learning can enable large-scale research studies across classes and integration of cutting-edge educational science for the benefit of students and instructors beyond psychology departments.

Similarly, collaboration with university offices that support students with disabilities can provide opportunities to study issues that affect the more than 20% of US undergraduate students with documented disabilities<sup>3</sup>. Through such collaborations, researchers can study the efficacy of academic accommodations and potentially

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develop new interventions to increase the accessibility of the academic program for these students. Disabilities are not limited to cognitive and affective impairments, but also include sensory or perceptual impairments and/or mobility issues. The consequences of these disabilities for educational access and remedies to improve access are ripe for investigation.

Some university students can also be relevant participants for nuanced studies of multilingual learning. Although international students who are not native speakers must have some mastery of the language of their university, their fluency in listening, speaking, reading and writing skills across academic, social and practical contexts presents innumerable opportunities for examination. The consistency of experience in classes, dormitories and dining halls provides additional controls when studying the particularly complex domain of naturalistic linguistic performance.

Furthermore, researchers in social and organizational psychology might find students' extracurricular groups of interest. Students engage with their peers in a host of organizations centred around shared social, recreational, political, preprofessional, philanthropic and/or cultural interests. These clubs and societies have various sizes and have different missions, goals and governance structures that enable examination of how these differences influence group cohesion, engagement and similar constructs. Owing to the transitory nature of undergraduate study, these groups all have high turnover rates, which can enable the study of iterative interventions that can be examined on a meaningful (but rapid) timeframe. Undergraduate campuses also have large numbers of competitive athletes as well as practicing musicians and artists, both within and outside organized groups. Athletic performance and creative practice are both potential outcome measures that can be examined by sports psychologists and others interested in skill acquisition, the development of expertise or divergent thinking.

The holistic lived experience of students, especially those in residential institutions, provides additional opportunities for investigation. Students starting university are frequently learning to navigate independent living, an increase in unstructured time and other challenges. As a consequence, they are often experiencing many unique or first-time experiences. The affective, social and cognitive aspects of these novel events can shape personality, autobiographical memory and other foundational constructs. For example, some institutions gather all incoming students (occasionally numbering in the thousands of people) for a group photograph during orientation. These class photographs are often a treasured keepsake among students, and this particular undergraduate experience has been used to demonstrate the differential forgetting rates of spatial and temporal aspects of autobiographical events<sup>4,5</sup>.

Consequently, there are opportunities for investigators in applied subdisciplines even when limiting the study of undergraduates to their role as students.

## Studying undergraduates as people

Studenthood is only one aspect of the undergraduate experience that is interesting from a research perspective. The majority of students (71%) who were enrolled in undergraduate study in the US in 2022 were between the ages of 18 and 29 years old<sup>6</sup> and therefore in the life stage of emerging adulthood<sup>7</sup>. This developmental stage arises within cultural contexts that support prolonged exploratory periods of individualization and increasing independence. As demographic, sociological, financial and political realities change, the markers of when this stage begins and ends, and how this time is experienced by those within it, are worthy of investigation. For example, relationship researchers might be interested in examining how individuals in this life stage evaluate and make decisions about romantic partnerships and how those considerations vary as a function of sexual orientation.

The undergraduate context is also ripe for research on decision-making, attitudes, values and motivation. Undergraduates are required to make multiple important decisions (their areas of study and their postgraduate career path) in a relatively short time. For example, one interdisciplinary team examined university student engagement through the lens of decision-making to identify how the big and small choices that students make in their academic and social lives influence their overall university experience<sup>8</sup>. Decisions made in university are readily generalizable to other major life decisions, but the predictability of such decision points, and the immediacy of their impact, make them especially practical as research targets.

International students are experiencing not only the psychological and material transitions described above, but also often a cultural transition. Despite coming from disparate cultures, all international students are adapting to the same new cultural context. Questions of identity threat and identity affirmation, as well as accommodation, acculturation and assimilation, can be examined as these students experience a new country and culture. Moreover, if international students are from countries that do not share the language of instruction at their undergraduate institution, questions regarding cultural influences on affect, cognition and behaviour can be examined while controlling for language competence and local environment.

Unfortunately, this age range and the social context of university are associated with increased vulnerability. For example, US undergraduate students experience high rates of sexual violence: the reported rate of nonconsensual sexual contact by physical force or inability to consent is 13% (ref. 9). Researchers in this area have the opportunity to investigate the psychological characteristics, perceptions of institutional support, and psychological reactions of perpetrators, victims and those in the fortunate majority outside either category. Moreover, there is an opportunity for truly impactful applied research in this area through collaboration with university and student groups<sup>10</sup>. For instance, researchers can provide recommendations to help prevent future harm from occurring and develop and assess evidence-based sexual misconduct training modules.

Furthermore, certain aspects of mental health are also particularly salient among individuals at this age. In a survey of US undergraduates in the 2023–2024 academic year, more than one-third of respondents met criteria for severe depression (38%) and/or anxiety (34%)<sup>11</sup>, rates much higher than those reported in the general US population among 18–29 year olds (3.8% for depression and 4.5% for anxiety) at approximately the same time<sup>12</sup>. Thankfully, 76% of university respondents at least somewhat agreed that they would know how and where to

access mental health support services if necessary. Thus, this group might be willing participants in research investigating the presentation of these conditions as well as developing and evaluating interventions for their treatment. This clinically oriented research can be done in collaboration with campus counselling centres or other providers of student mental health services.

## Moving beyond convenience sampling

In short, undergraduate students have specific developmental and identity traits, maintain salient and dynamic social roles, and occupy particular and varied contexts. Owing to these characteristics, they are representative of specific populations that are of interest to psychologists, rather than being merely a sample of generic humans who are conveniently located. Working with undergraduate students also provides an opportunity for collaborative involvement of students in research design and implementation, thereby fulfilling the ethical obligation for justice in research and the value of inclusivity more generally. Universities also provide fertile ground for collaboration between researchers and practitioners. Administrators and staff in centres of teaching and learning, career centres, deans of advising and leaders of on-campus organizations, among others, can contribute their experience and expertise to become partners for insightful translational research. With intentional sampling and targeted research designs, investigators can capitalize on the uniqueness of the undergraduate population to answer key questions and advance the practice of psychological science.

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## Competing interests

The author declares no competing interests.