



THE EFFECTIVENESS AND LIMITATIONS OF THE ATAR

DECEMBER 2019

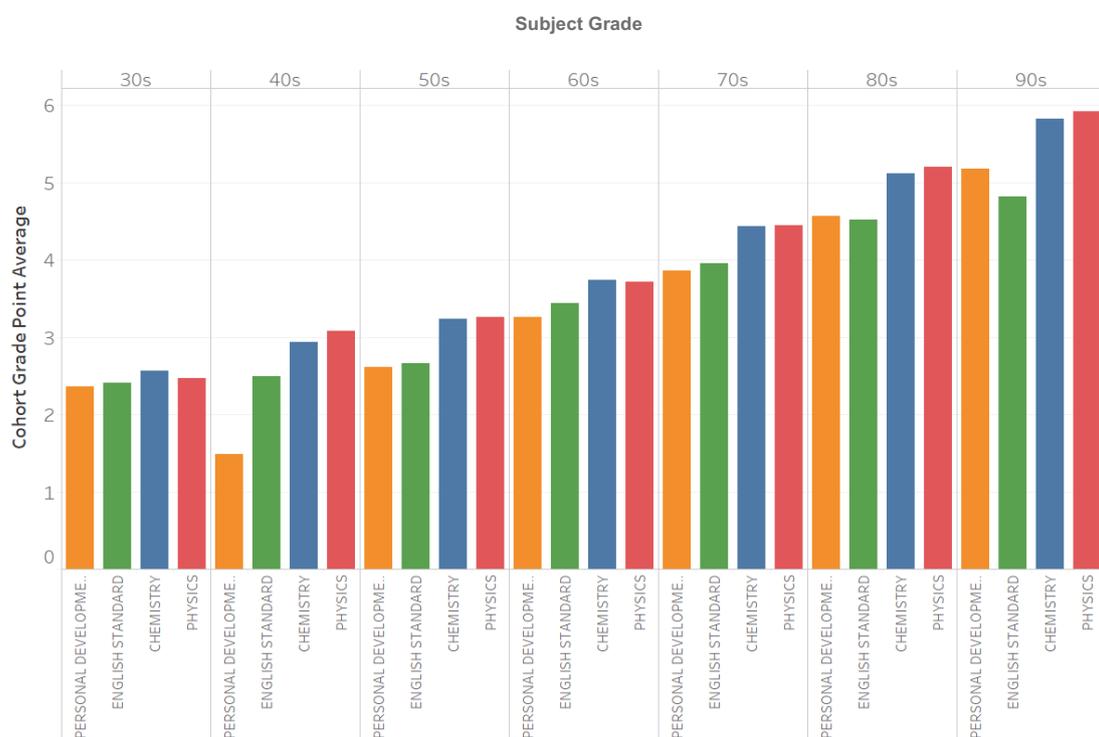
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1 WHAT THE ATAR IS GOOD AT

As previously noted (see the UAC report: **The Usefulness of the ATAR as a measure of academic achievement and potential** at <https://www.uac.edu.au/media-centre/publications/usefulness-of-the-atar>, 16 October 2019) the ATAR is an excellent predictor of success at university, as measured by first-year GPA.

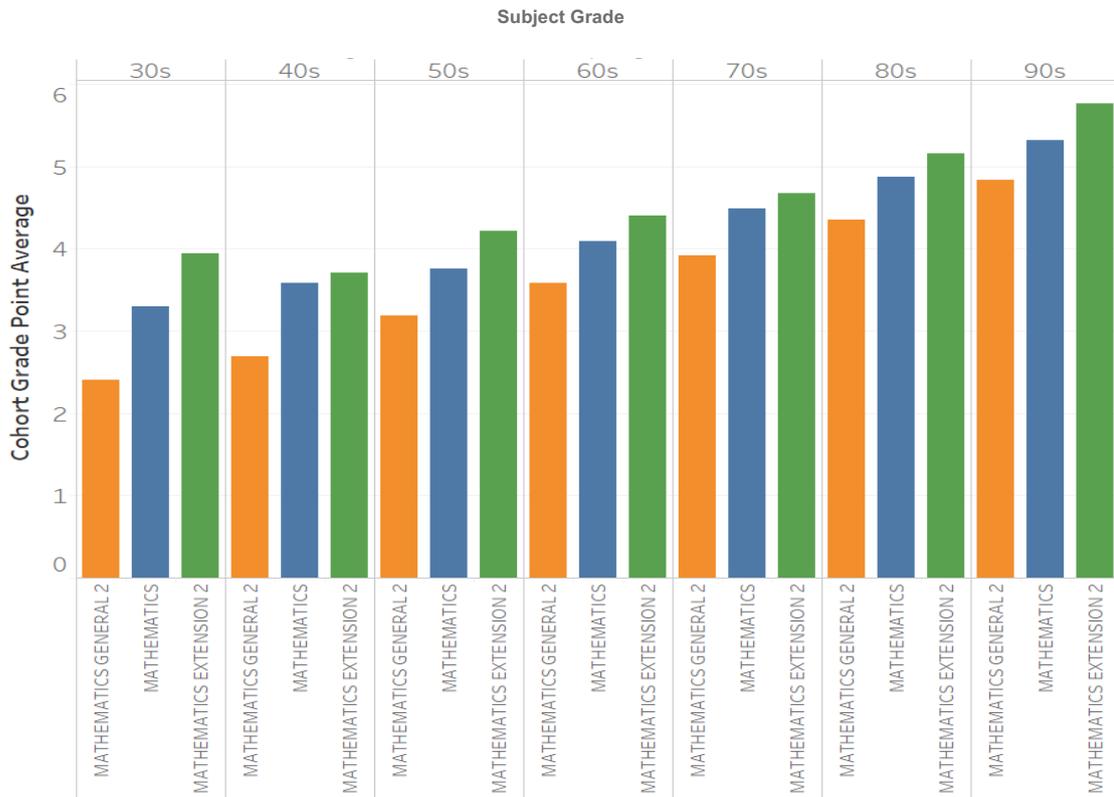
It is a better predictor than performance in individual HSC subjects, as shown in figures 1 and 2, which clearly indicate that subject grades are not consistent indicators of first-year success:

Figure 1: Individual Subject Marks and GPAs



Individual subject marks are not as good an indicator of success as ATAR

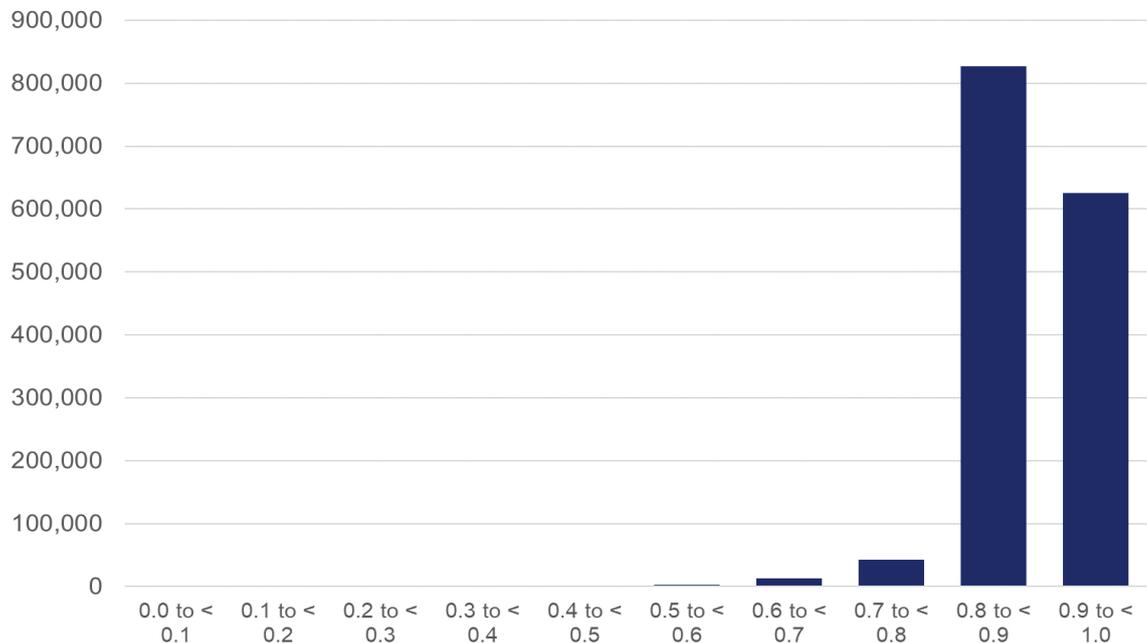
Figure 2: Individual Subject Marks and GPAs



Individual subject marks are not as good an indicator of success as ATAR

When we look at subject marks overall, however, the correlation is strong with the ATAR given that the ATAR rewards consistently high performance across many subjects:

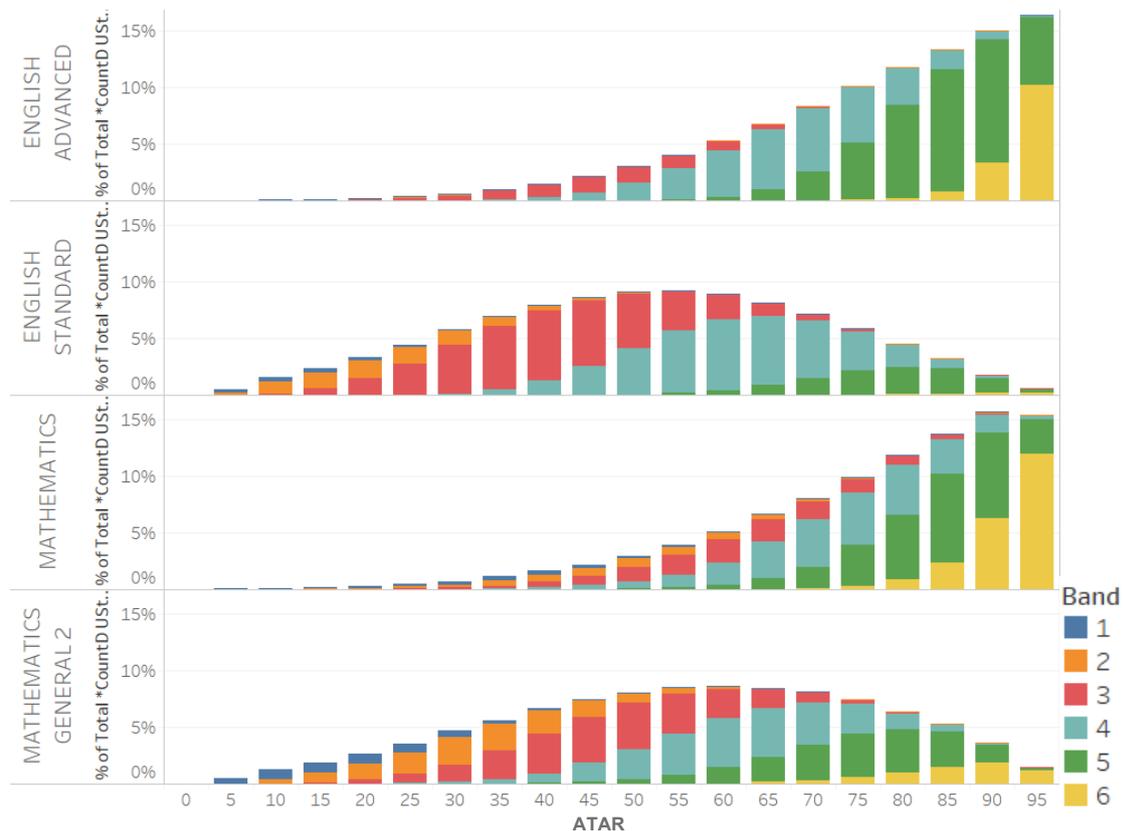
Figure 3: HSC Subjects and ATAR



Total subject marks correlate highly with ATAR

What we also find is that students tend to select HSC subjects according to their academic ability, with higher ATARs associating more strongly with higher level English and mathematics, as shown in Figure 4:

Figure 4: HSC Subject bands and ATAR



Students tend to select subject levels according to academic ability

It's important for universities to offer places to those students deemed (by whatever measure) most likely to succeed. Of the available measures, the ATAR is the best single indicator of preparedness for university that we have, and it has the additional advantages of efficiency and equity.

2 WHAT ELSE THE ATAR IS GOOD AT

While the main task of the ATAR is to measure academic achievement – based on the HSC – it is actually a combination of academic ability and the effort the student puts into their final years of study at school. Therefore, it is potentially also telling us some other interesting things about Year 12 students that are relevant to their potential for success at university.

To succeed at university requires not only academic ability but also:

- ability to handle the pressure of competing deadlines and workload
- time management skills and
- resilience.

These things are embedded in success in the HSC as well. The higher the ATAR, the more developed the student's ability in these non-academic areas of time management and resilience.

A student with an ATAR below the average ATAR of their cohort could reasonably question whether they are ready for university both academically and personally, even though in the last few years many of these students have been offered places at university.

3 WHAT THE ATAR IS NOT GOOD AT

While the ATAR is useful and important and, in many ways, more than just a number, it's not everything either. It doesn't account for student disadvantage, ambition, passion or interest. It's not meant for employers or anyone other than university admission teams.

And even in those hallowed halls, it has its limitations. While ATAR and first-year GPAs correlate well with most fields of study (FOS) at university, it doesn't work as well for all.

As you can see from the following table, the correlations are weakest for Society and Culture, Creative Arts and Architecture.

Table 1: ATAR and GPA by FOS

FOS	ATAR mean (SD)	GPA mean (SD)	Correlation between ATAR and GPA	N
Natural and Physical Sciences	81.73 (12.86)	4.52 (1.58)	0.474	16,609
Information Technology	75.64 (14.39)	4.35 (1.65)	0.503	4,781
Engineering and Related Technologies	84.30 (11.46)	4.54 (1.49)	0.502	10,334
Architecture and Building	76.56 (13.99)	4.73 (1.28)	0.459	3,805
Agriculture, Environmental and Related Studies	73.14 (13.26)	4.16 (1.56)	0.491	952
Health	78.88 (14.64)	4.59 (1.45)	0.496	16,329
Education	71.41 (13.10)	4.46 (1.34)	0.467	6,547
Management and Commerce	81.20 (15.80)	4.41 (1.54)	0.594	20,038
Society and Culture	76.19 (15.27)	4.31 (1.59)	0.405	29,023
Creative Arts	76.36 (15.00)	4.80 (1.30)	0.389	9,937
Total	78.61 (14.80)	4.48 (1.52)	0.464	118,362

Stronger correlation with some FOS than others

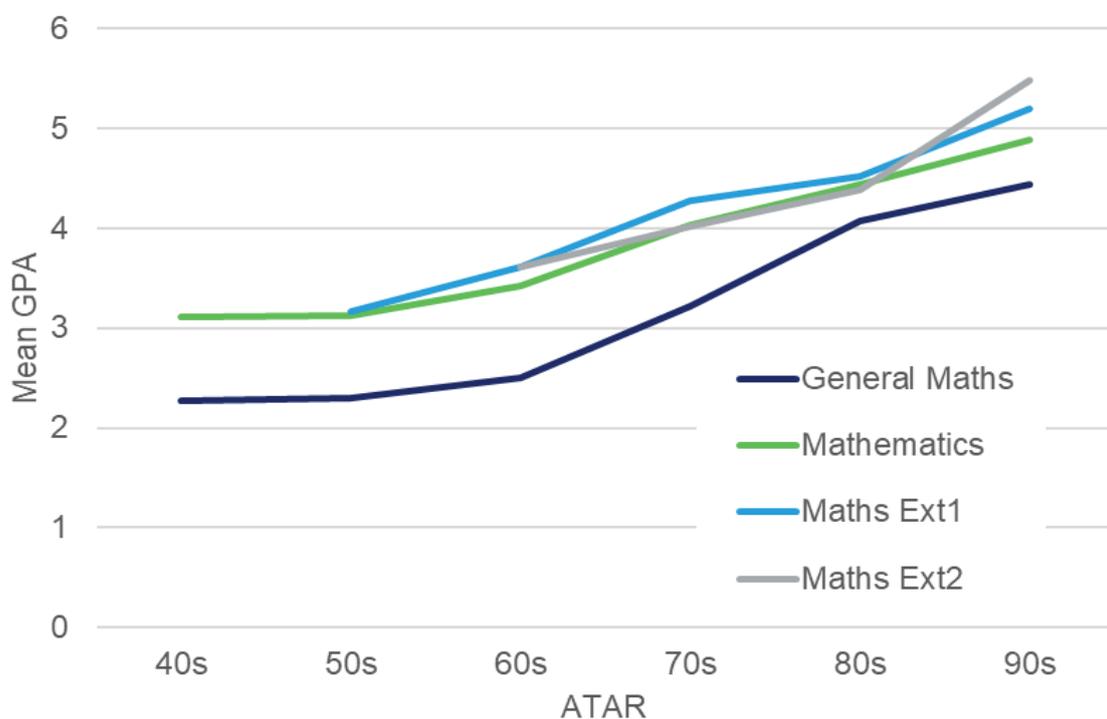
This is not surprising, given the creative aspect to these fields of study, best measured by admission criteria other than, or only in conjunction with, the ATAR. These include a personal statement, a questionnaire, a portfolio of work, an audition, an interview or a test.

4 A NOTE ABOUT ENGINEERING AND SCIENCE

Our data shows some interesting patterns for the specific fields of study of Engineering and Science.

Figure 5 shows that Engineering students would be well advised to take at least Mathematics in the HSC, as first-year GPAs are significantly lower for students who have only taken General Mathematics (which doesn't include a calculus component):

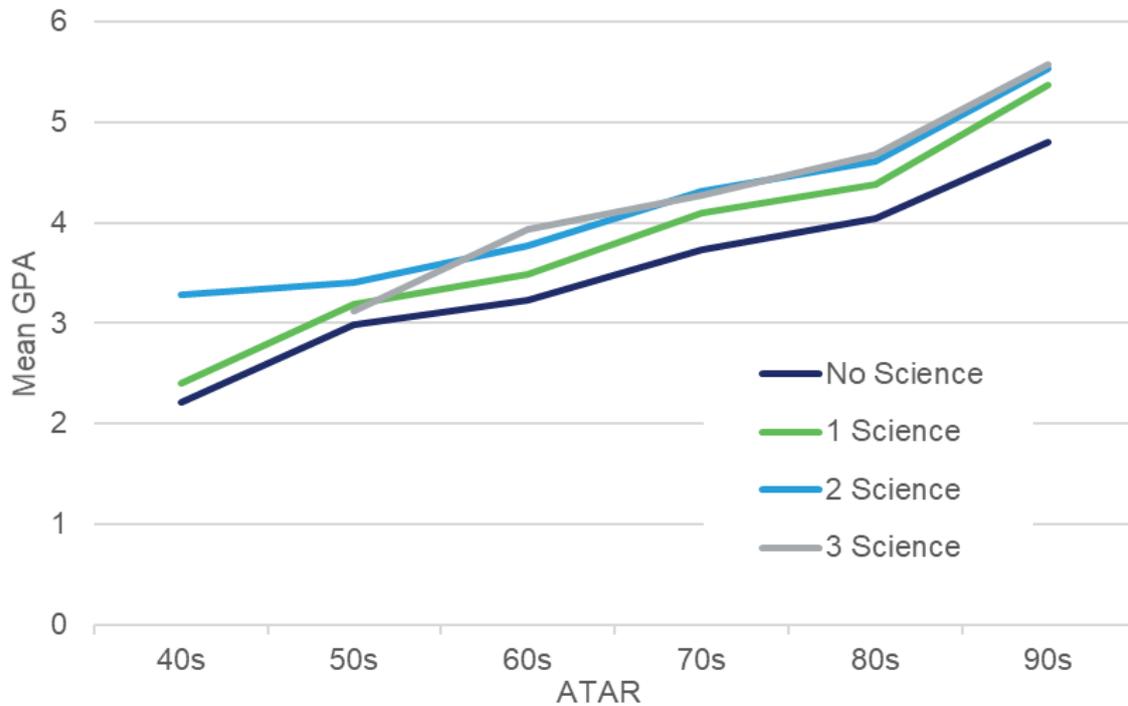
Figure 5: Mean GPAs of Engineering Students, by ATAR and Maths



General Mathematics (which doesn't have a calculus component) doesn't prepare Engineering students as well as the higher levels of HSC Mathematics.

For students in Science, our data shows that the more HSC science subjects studied the better, with GPAs for students with no HSC science courses significantly lower:

Figure 6: Mean GPAs of Science Students, by ATAR and Science



The more HSC science subjects studied the better

5 ONE SIZE DOESN'T FIT ALL

The key point is what universities have known for a long time - that different university courses require different abilities and skills, and that some things are not measured by ATAR alone. Of the things it measures, though, it does an excellent job.

For HSC students, the advice remains to choose what you like and are good at, at the highest level you can comfortably do, and which will set you up for your future studies. And if your ATAR isn't what you had hoped for, don't lose heart. It's only one measure of your potential and many pathways to success are available to you.

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