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Patience Is A Virtue: The Effect Of Students' Time Preferences On Their Academic Results

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Let's do a survey 😊

- Read the information sheet
- Now do the survey



What does the survey reveal?

- Consistency?
 - Once the switch is made, it stays
 - Some of us switch early
 - On or before statement 5
 - On or before statement 10
 - Paid 7 months from now: \$x for all statements
 - Some of us switch later
 - On or before statement 15
 - On or before statement 20
 - Some of us never switch
 - Paid one month from now: \$54 for all statements

What does this mean?

- Switching early:
 - high discount rate
 - high rate of time preference
 - impatient
- Switching later:
 - low discount rate
 - low rate of time preference
 - patient



What does this mean for our students?

- Expect that:
 - Students with high discount rates will get lower marks
 - More impatient
 - Procrastinate
 - Attend fewer classes
 - Students with low discount rates will get higher marks
 - More patient
 - Get on with tasks
 - Attend more classes



Let's test this

Data

- Semester one and two 2011
- Economics 1 students
- Lecture 13 in Semester 1 and lecture 4 in Semester 2
- Two metropolitan campuses
- N = 412
 - 191 completed the survey
 - 163 were consistent

Switch Item ^a	Survey	Number of the statement at which a switch in the response pattern occurs
Consistent	Derived from Survey	If the subject's choices switch between "Paid one month from now" to "Paid seven months from now" at most once (1); else (0)
Discount Rate ^a	Derived from Survey	The annual discount rate implied by the decision to switch
Parents Education	Survey/Student Information Database	Parents' highest level of education: High School Year 12 or below (0); Bachelor Degree or above (1)
Age	Student Information Database	Age as at 3 Jun 2011
Course	Student Information Database	Enrolled course of study: Bachelor of Business (BBus) (1); Other (0)
Course Average	Student Information Database	Weighted average mark for course of study
Campus	Student Information Database	JO (1) or ML (0)

Enrolment Type	Student Information Database	Studying Full-time (1) or Part-time (0)
Final Mark	Student Information Database	Final mark awarded for the Economics unit
Finance	Student Information Database	If currently enrolled in or already completed first year Finance unit then 1 (Yes); otherwise 0 (No)
Gender	Student Information Database	Gender is Male (1) or Female (0)
International	Student Information Database	If overseas student then 1 (Yes) otherwise 0 (No)
Postcode	Student Information Database	Postcode of student's correspondence address
Tutorial Attendance	Supplied by unit tutor	Number of Economics tutorials attended (out of 13) during the semester
Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD)	ABS	Socio-Economic index score for the student's Postcode

Comparison of students who completed the survey (n = 191) with those who didn't (n = 221)

Students who completed the survey:

- Were slightly older
 - (F = 8.85; p = 0.0031)
- Had higher mark (55% cf 37%)
 - (F = 60.40; p = 0.000),
- Had higher course average (60% cf 48%)
 - (F = 42.39; p = 0.000),
- Attended more tutorials (on average 10 cf 6)
 - (F = 140.75; p = 0.000)
- Had parents with less education (43% cf 59%)
 - (chi sq = 8.3518; p = 0.004).

Comparison of consistent surveys (n = 163) with inconsistent surveys (n = 28)

Students who completed consistent surveys:

- Had higher final marks (58% cf 42%)
 - (F = 18.49; p = 0.000)
- Had a higher course average (68% cf 48%)
 - (F = 24.00; p = 0.000)
- Lived at an address with a higher socio-economic index (IRSAD) score
 - (F = 5.85; p = 0.017)
- Were more likely to be studying part-time
 - (chi sq = 3.0927; p = 0.079)
- Were more likely to be domestic students
 - (chi sq = 8.3288; p = 0.004).

Age Group	Under 21	78.8
	21 And Over	72.0
Campus	ML	77.9
	JO	74.7
Course	Other Course	81.1
	Bachelor of Business	73.8
Course Average	mark < 50	72.0
	mark of 50+	76.1
Enrolment type	Part-time	90.0
	Full-time	73.8
Final Mark	Mark under 50%	73.6
	Mark of 50% or more	76.1
Gender	Female	69.4
	Male	81.2
International	Domestic student	77.2
	Overseas student	67.3

IRSAD*	1 st quartile (lowest)	76.4
	2 nd quartile	85.3
	3 rd quartile	73.3
	4 th quartile (highest)	68.6
Parents University Education	High School Yr 12 or below	77.9
	Bachelor Degree or above	75.9
Tutorial Attendance	Attended < 11 tutorials	83.7
	Attended 11+ tutorials	70.6
Total	High School Yr 12 or below	75.5

Bivariate Results

- Females, on average, have lower discount rates, interpreted as being more patient.
- Tutorial attendance is negatively correlated with discount rates (higher attendance with lower discount rates).
- Differences in discount rates across other student characteristics are not statistically significant.

Variable	Logit	Model	
		OLS	Stepwise OLS
Discount rate	1.1175***	3.7970	
Gender	-0.93785***	1.3943	
Joondalup	-0.03299	2.9217	
IRSAD	.00734	0.0287	
BBus	-0.03955	-2.2820	
Full time enrolment	-0.99538	-6.5785	-8.4863**
International	0.72236	-1.0139	
Parent University Education	-0.34679	-1.1851	
Tutorial attendance	0.37263*	2.8386*	2.9326*
Age	-0.64951***	-0.6751	
Age Squared	1.05580	1.4452	
Constant	-0.40762	8.9772	35.8519*
Pseudo R ² / Adj R ²	0.2131	0.2224	0.2464

Multivariate results

The regression results show that:

- The discount rate is positively correlated with final marks - procrastination is a virtue??
- Enrolment type influences final marks with full-time students having poorer marks on average
- Tutorial attendance influences final marks with final marks increasing with attendance

The Grasshopper and the Ants by Aesop



One fine day in winter some Ants were busy drying their store of corn, which had got rather damp during a long spell of rain. Presently up came a Grasshopper and begged them to spare her a few grains, "For," she said, "*I'm simply starving.*"

The Ants stopped work for a moment, though this was against their principles. "May we ask," said they, "what you were doing with yourself all last summer? Why didn't you collect a store of food for the winter?" "The fact is," replied the Grasshopper, "*I was so busy singing that I hadn't the time.*" "If you spent the summer singing," replied the Ants, "you can't do better than spend the winter dancing." And they chuckled and went on with their work.

