

Recruiting and Managing a Strong Student and Postdoctoral-Based Research Team

Georgia Mason
Dept of Integrative Biology

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Outline

- Recruitment
- Selection
- Managing for happiness
- Managing for productivity
- Managing for their later success
- How to stop them driving you crazy



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Recruitment

My hunches:

1) Do everything as if prospective graduate students might be checking you out:

- Teach as if they are
- Advise undergrad project students as if they are
- Write your papers as if they are
- At conferences, present and handle questions and talk to youngsters as if they are
- Think about your web presence as if they are looking for you

2) Get to know local colleagues

e.g. via local meetings and journal clubs to recruit within Ontario but beyond UoG

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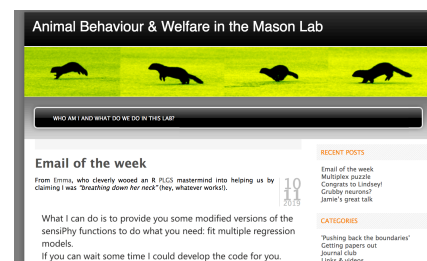
Selection

- Do you have a rapport?
- Are they ready for grad school?
- Do you respect them/their ideas?
(James & Baldwin 1999, CAGS 2004)
- Do they REALLY want to work with you, or just with anyone?

If you can't select your own, I would push to be allowed to

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Potential students can get a sense of me from my Lab Blog, and also references from my students



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Tools

- ... transcripts (but watch out for grade inflation)
- ... interviews
- ... reading written material
- ... time in lab/ as a project student
- ... informal/verbal references (not just formal ones)
- ... lab members' feedback

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Tools

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 - ... informal/verbal references (not just formal ones)
 - ... lab members' feedback
- Active choice may increase (mutual) determination to succeed?
- + "Fit" is important

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They should be happy

Student satisfaction (e.g. are you happy? Do you like their advisor?)...

- ✓Predicts retention (rev. Sverdlik et al. '18, Dericks et al. '19)
- ✓Increases recommendations to others (rev. Dericks et al. '19)
- ✓Increases creativity and efficiency (rev. Maestre '19)
- ✓Increases resilience (rev. Ross '18)

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Your supportiveness is important here

"an overall sense of having a constructively concerned, thoughtful, understanding and reassuring environment"

Of everything measured in 409 PhD students, this aspect of advisor supportiveness was the best predictor of student satisfaction (Dericks et al. 2019)

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So is the lab / group / dept. culture

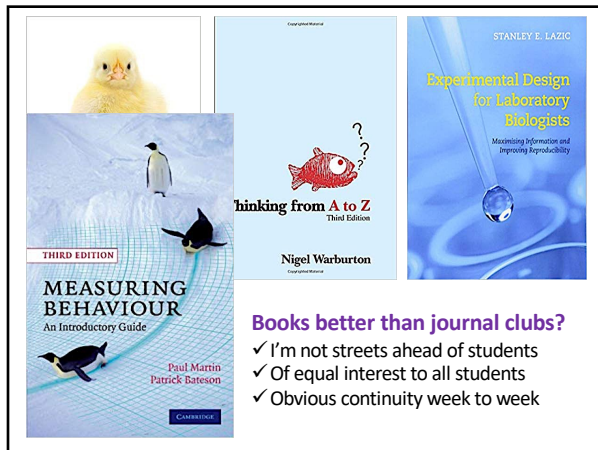
Academic qualities and supportiveness of the department / group = another major factor in student satisfaction (Dericks et al. 2019)

"Academic and social isolation are widely recognised problems" "Solution...vibrant postgraduate learning communities" (James & Baldwin 1999)

Lab culture can include "destigmatizing failure and celebrating success" (Maestre 2019)

Group activities can include discussion groups, collaborative side projects, meetings outside the lab ...

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If that's too "touchy feely", at least understand the causes and symptoms of stress, anxiety and depression

Risk factors

- Being female
- Work-family conflict
- Being at the beginning or end of PhD
- High pressure and lack of control

Laissez fair advisors

Protective factors

- Having a partner and children
- Being interested in an academic career
- Optimistic views of value of PhD
- Being in the middle phase of the PhD

Inspirational advisors

Levecque et al. 2017

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PLOS | COMPUTATIONAL BIOLOGY

EDITORIAL

Ten simple rules towards healthier research labs

Fernando T. Maestre *

Departamento de Biología y Geología, Física y Química Inorgánica, Universidad Rey Juan Carlos, Móstoles, Spain

* fernando.maestre@urjc.es

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Practical supportiveness

Table 2. Items measuring perceived PhD supervisor support.

1.	Help you develop professional relationships with others in the field
2.	Encourage you to publish your work
3.	Encourage you to give conference papers (Western et al. 2007,
4.	Assist you in preparing proposals for funding (Platow 2012)
5.	Assist you in gaining employment
6.	Help you develop relevant skills and knowledge

... tends to predict more productivity during PhD (Platow 2012)

ALSO...use scholarship and grant deadlines + collegiality

Pay to submit if no longer with you

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- Work closely with them on their research plans ... but do not itemise every single detail

- ✓ Working on solo projects predicts post PhD income
(*Western et al. 2017*)
- ✓ Allowing autonomy increases long-term research output, though at the expense of short-term output (*Shabayama '19*)

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Shabayama '19

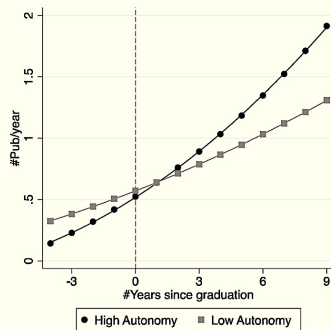


Fig. 1. Estimated Students' Scientific Production.
Note: The estimation is made based on Model 3 Table 2 with the mean values of all independent variables except for the focal independent variables (High = 1 and Low = 0). The dotted vertical line is the year of graduation.

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➤ More on useful practical supportiveness

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 6. Help you develop relevant skills and knowledge.
- (*Western et al. 2007, Platow 2012*)

- ... decreases completion times (*Platow 2012*)
- ... increases chance of employment post-graduation (*Western et al. 2007, Platow 2012*)
- ... predicts larger salaries post-graduation

(*Platow 2012, but cf. Western et al. 2007*)

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Avoiding exasperation

- Select with care
- REMEMBER that you selected with care
- Remember that THEY ARE NOT YOU: you were someone who loved it and were unusually good at it.
- Remember that they are dirt poor (a stressor), potentially a long way from home (ditto), and also young ...


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Brain development may well not be complete yet, especially if male
 (e.g. Andersen 2003, Lebel & Beaulieu, 2012)

- Corpus callosum still developing
- Post-adolescent development
- Pre-frontal cortex

Consequences: abilities that may not yet be at adult peak:

- ✓ Abstract reasoning
- ✓ Planning and prioritization
- ✓ Emotional regulation



PRE-FRONTAL CORTEX

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Recovering a Strong Moral-Character

QUESTIONS??

Concept of Integrative Biology

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