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## Postgraduate Study: The Hidden Cost of Writing a Thesis

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### Abstract

Not too many years ago the attitude that:

"Women are no good at mathematics, as it is a logical subject which requires a rational mind. As women are irrational, therefore they will not succeed at mathematics or understand it, and therefore should not be encouraged to study it." (McKenzie, 2001)

prevailed. Many of these attitudes are fading, but still unseen hurdles exist.

### Introduction

In these enlightened times, students do not only consist of those straight out of school. Observing the mix of students present at some of the tutorials run by IIMS (traditionally young and male dominated subjects) there are now men and women of all ages, backgrounds and ethnicities. All of the IIMS subjects are represented by a number of talented postgraduate students, not just straight from school but often learning with English as their second or third language. Many of the IIMS students have a knowledge of Mathematics, or a subject that has grown out of it, as their cornerstone.

Historically women particularly were not encouraged to study mathematics. To this day many of the female students at training college (and primary school teachers) profess an intense dislike for mathematics, passing this prejudice on to their pupils, particularly girls. One ten year old quoted "It's not cool to be seen to like math's!"

An early publication stated that female students do not have the logical ability to study mathematics. These sorts of attitudes persist until this day. "It takes all the running you can do to keep the same place. If you want to get somewhere else, you must run twice as fast" This quote was from a mathematician. (Osen, 1974). "What about the women who were unwilling or unable to run twice as fast?" (McKenzie, 2001). As late as 1998 these attitudes were being touted "Maths = male = rational  $\neq$  irrational = female." (Walkerdine, 1998).

### The IIMS Situation

An informal survey of fifteen thesis writing students over the past three years (most have left the institute) showed that six out of the fifteen suffered serious problems, which they attributed to the pressure of thesis writing. Of these six, three suffered serious long-term relationship breakdown, two attempted suicide, and one suffered serious bulimia. A log linear model applied to this data showed, a significant P-value when gender was put in the model. ( $p < 0.0001$ ) using PROC GENMOD (SAS). However as the numbers were too small and as the data was collected informally, this would need to be part of a bigger study, to draw any valid inferences. As a purely observational study, young males (stereotypically successful students) tended to fare best.

IIMS post graduates (Masters and PhD students) are not great in number, but there would appear to be a very marked difference in the stresses on male students and female students. Male students tend to be unmarried, and without major work or family commitments. Female students often have to both work and study, and many have family commitments. One student found while her husband was sympathetic to her study (He himself was a student), when a conflict of interests arose between family issues and studying (such as a sick child), if she chose to study, this decision was greeted with hostility. Pressures are greatest on women who are married with children. Anecdotal evidence of students in other areas of the College of Sciences would also support this finding. Another student not included here, left when her marriage disintegrated largely due to her commitment to study. Students who are single, and in receipt of a scholarship, or student allowance, be they male or female, will do well. They have no pressure from

relationships family or work to distract them from studying. Their time is completely free to study. Married (or LTR) students can find that while there is some distraction from their study, mostly this is an issue if it comes in the form of having to earn a living.

Traditionally if a husband wanted to complete his education, and family (parents) was not able to support him, very often his wife would work until his education was complete. This is a common scenario. The assumption that a good education would later provide good employment, and therefore support the family has been an accepted model in NZ society for many years, a good many married men have financed their education in this way. In some cases a husband may work, and support his wife through study. As a married woman is not entitled to any student allowances, either her husband supports her financially or she must work to pay fees, expenses etc. If and only if her marriage (or LTR) breaks up (particularly if there are children involved), WINZ will pay her fees to continue studying. Obviously the greater the family commitments, i.e. marriage, children etc, the greater the demands on students outside of study.

The pressure nearly always came from the conflicts of time pressures, given the students' desire to produce a good result. This usually results from trying to weight the demands of family / relationships with the disproportionate amount of time required to write a thesis. The men tended to fare best, if in a stable long-term relationship with a supportive wife, as did those who were single. These two groups tended to come through fairly well, and achieve a good result. Where the men were in a long-term relationship and their partner was also studying, difficulties were experienced. For the women who were single, very few problems were experienced, as they were not trying to juggle the demands of family and studying. When in a long term relationship, all experienced some degree of difficulty, whether it was juggling time for children and husband / partner, and the associated guilt of not having enough time to do everything required, particularly when children got sick etc. One student (A grade point average) left her child in another country, and made the decision not to pursue her studies after a master's thesis because of the family stress involved. It is possible for married women who are mothers to write a thesis and get a higher degree, but that student will need twice the dedication of the single student with a scholarship / student allowance, and probably take much longer over it.

This problem can be alleviated to a degree if students are not overloaded with too many papers, or too draconian a time frame. Certainly a mix of papers and thesis writing (at one time) is a recipe for disaster. What may be fair and reasonable for unattached male students on a scholarship, may not be for a working mother with say pre-school children (These are the two extremes, but they illustrate the fact that not all students have the same amount of time available, when time in the day runs out, the night hours quickly become attractive for study purposes, often to unreasonable levels). Waikato University has recognised this fact, and two of it's recent PhD graduates have taken eight and twelve years to write their theses, due to both of them having babies during the time they were enrolled. This is not to say their work was any less valuable than the PhD completed in less than three years, they were equally valuable.

Some form of recognition, that married women particularly, very often have other pressures in their lives which make full time study unreasonable, although not impossible. Also to remove the idea that part time degree is some how of less value, would make a huge difference to many people, making post graduate study more accessible. Massey University has a long history of providing education (particularly undergraduate) to those who could not otherwise reach it via extramural studies (most of those students are part-time). Maybe it is time to consider promoting postgraduate study in a similar way, not necessarily extramural, but certainly the part time option. It needs to be recognized, that those who care for families, and work to put themselves through university may be 'full-time' (or as full-time as it is possible for them to be) when they are doing fifty or seventy-five points a year. Care needs to be taken when advising students in this situation, to take on too heavy a workload, or the results will be unnecessarily disappointing.

The university gives no prizes to overloaded stressed out students, often they are penalised if they fail to cope. Conversely a student tackling a part time course may be hailed for achieving high grades, even though there are little other complications in that student's life. At the end of the day, the grade point average is the only yardstick the university recognises.

**References**

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