



Success

against the odds



Kylie is a research fellow in ACER's National Surveys research program.

Kylie Hillman presents a research project that found low performance in mathematics did not hinder some students' post-school success as much as may have been expected.

It has been long acknowledged that what happens in the immediate post-school years can have important consequences for young people in making their transition from school to employment or further study. Over the years a raft of research studies, including previous research in the Longitudinal Surveys of Australian Youth (LSAY) have indicated that academic achievement in the middle years of secondary school has a big influence on future success in study and the workforce. Poor academic achievement can create serious stumbling blocks for school leavers.

In a recent LSAY study undertaken for the National Centre for Vocational Education Research (NCVER), Sue Thomson and I examined the post-school pathways taken by 1596 students from 294 schools across Australia who had taken part in the 2003 OECD Programme for International Student Assessment

(PISA) and been categorised as low achievers. In following their pathways the study aimed to investigate whether this low performance resulted in poor short-term outcomes for these students when they left school, and what factors differentiated between those who went on to succeed and those whose post-school outcomes were not as positive.

In 2003 a nationally representative sample of 15-year-old students from schools across Australia took part in PISA with the major focus on mathematical literacy. Students who took part in PISA later became a cohort group in the ongoing LSAY study; to be known as the Y03 cohort.

According to the OECD, students achieving at PISA proficiency level 2 (see box on page 10) or below are at serious risk of not being able to adequately participate in a 21st century workforce and contribute as productive

citizens. In Australia the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) determined that national standards should be set at PISA proficiency level 3. For the purposes of this project, the 3238 students who did not achieve at or above proficiency level 3 on the 2003 PISA mathematics assessments became the focus of our research.

How well does a students' achievement in PISA predict their subsequent success in life? The definition of 'success' used in this project included satisfaction with life, as well as whether young people were fully occupied with education, employment or a combination of these activities. Those who were fully engaged and happy with their lives were designated as having a 'successful outcome.' This is a more well-rounded definition of success than has been used in previous studies.

For each year that the students remained in the LSAY study (some drop out of the study each year after losing contact) they were contacted by phone annually for the next four years. Each year they were asked a series of questions relating to their engagement with work and study as well as their general happiness with their personal situation. By analysing the information collected up until 2007 it is possible to form a detailed picture of how this

group was faring four years on from the PISA assessments.

As is the case for most young people in Australia, the majority of students in our study remained at secondary school and reported in interviews that they had completed Year 12 and been awarded the appropriate qualification for their state. From there, more than one third of them moved into employment – part time or full time – while just under one third went on to tertiary education at a university, TAFE or some other facility.

In each year, the majority of young people who had a full-time job the previous year continued to be in full-time employment the following year. Around a quarter of those who were unemployed were still unemployed a year later. Around one third of those unemployed, however, made the transition to part-time or full-time employment, indicating that for some young people, at least, unemployment was a stop along the path rather than a pathway in and of itself. The unemployment rate of this group was just under 6 per cent. The Australian Bureau of Statistics estimated unemployment at this time was around 3.5 per cent for teenagers and the Dusseldorp Skills Forum estimated youth unemployment at 10 per cent.

In 2007, most of this group of young people, many of whom may have been expected to be experiencing difficulties

PISA Proficiency Levels

At level 3 students can:

- execute clearly described procedures, including those that require sequential decisions.
- select and apply simple problem solving strategies.
- interpret and use representations based on different information sources and reason directly from them.
- develop short communications reporting their interpretations, results and reasoning.

At level 2 students can:

- interpret and recognise situations in contexts that require no more than direct inference.
- extract relevant information from a single source and make use of a single representational mode.
- employ basic algorithms, formulae, procedures, or conventions.
- use direct reasoning and make literal interpretations of the results.

given their low achievement, were doing relatively well. Around 40 per cent were in some form of further study or training, just over 30 per cent were in full-time employment and another 17 per cent were working part-time.

Overall the outcomes in terms of engagement in education or employment for this group of young people appear fairly positive, with around 70 per cent fully engaged in education or training, employment or a combination of these. However, in comparison to estimates for the full Y03 cohort and published statistics for the population of comparable age, the situation begins to look less favourable.

In 2007, 83 per cent of the full Y03 cohort was fully engaged in education, training and/or employment, while 12 per cent were partially engaged in these activities. Only 5 per cent of the Y03 cohort was unengaged in education, training or employment, meaning that the low performers were twice as likely to be unengaged in work or study activities.

By 2007 there were 1596 young Australians still in the study. We took a closer look at this group to see how student background may have influenced their success and what differentiates between low performers who have successful outcomes and those who do not. It was clear that low performing young people from a low socioeconomic background have a lower likelihood of success than low performers from more affluent homes.

In general, those who were from high or medium socioeconomic backgrounds, who were highly instrumentally motivated (they had agreed while at school that mathematics study was important and worthwhile), enjoyed school, got along well with their teachers, planned to undertake an apprenticeship and came from schools in non-metropolitan areas were more likely to be successful than other study participants. On the other hand, those who did not have any plans for what they might like to do after

leaving school, particularly girls without firm career or study plans, were less likely to have a successful outcome.

These findings stress that a positive school experience not only impacts on students' lives at the time they are at school but appears to continue to influence them once they have left. Female students in particular, were more likely to be fully engaged in education, employment or a combination and to be happy with their situation, if they had enjoyed being at school, enjoyed learning and felt safe and secure. While it is not possible to eliminate all stress or negative experiences from secondary school, findings such as this remind us of the important aim of education to foster the social and emotional development of young people, as well as their academic development. Young people who may not be performing as well as their peers should be encouraged to think carefully about their future and to make strategic plans.

Success despite the odds? Post-school pathways of low mathematics performers in Australia by Sue Thomson and Kylie Hillman was released by the National Centre for Vocational Education Research (NCVER) in September 2010. The report is available from www.isay.edu.au. LSAY has tracked the pathways of young Australians since the early 1990s, through senior secondary school and into the labour force or post-secondary education or training.

Findings from this research were presented to the 12th International Conference on Motivation in Portugal in a paper entitled 'The role of motivation in successful post-school outcomes for low-achieving youth,' also by Sue Thomson and Kylie Hillman. ■

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