

Tell Them From Me: Gender and Engagement

The role gender plays in education has received much attention over the years. Research has tended to look at the 'gender gap' in education, particularly in relation to accessibility, attainment and the advantages boys have historically had over girls in these areas. Today, boys and girls have equal access to education and have equal chances of achieving at high levels (OECD 2015)¹. Yet there is evidence internationally that 'new' gender gaps are emerging: boys are more likely to be disengaged from school than girls, have low skills and poor academic achievement, and to leave school early; whereas girls

are more likely than boys to have less self-confidence when it comes to science, technology, engineering and mathematics (STEM) subjects and are underrepresented in maths, physical sciences and computing in higher education (OECD 2015; NSW Ministry of Health 2016).

This Learning Curve presents results from the NSW *Tell Them From Me* secondary school student survey conducted in March 2015 to analyse gender and engagement in NSW public schools to determine what (if any) impact gender has on engagement.



Key Findings

- Gender research in education usually focuses on achievement and in particular on 'underachieving boys'.
- *Tell Them From Me* data shows that there is a gender gap between girls and boys on most measures of student engagement and wellbeing.
- Girls are likely to have higher aspirations and to behave better than boys at school, whereas boys have a greater sense of belonging and are less likely to feel anxious than girls.
- The gender gap can narrow or reverse when looking at students from particular subgroups or types of schools.

¹ In developed countries.

Does gender matter?

There is debate in the literature over whether gender is an important variable in education.

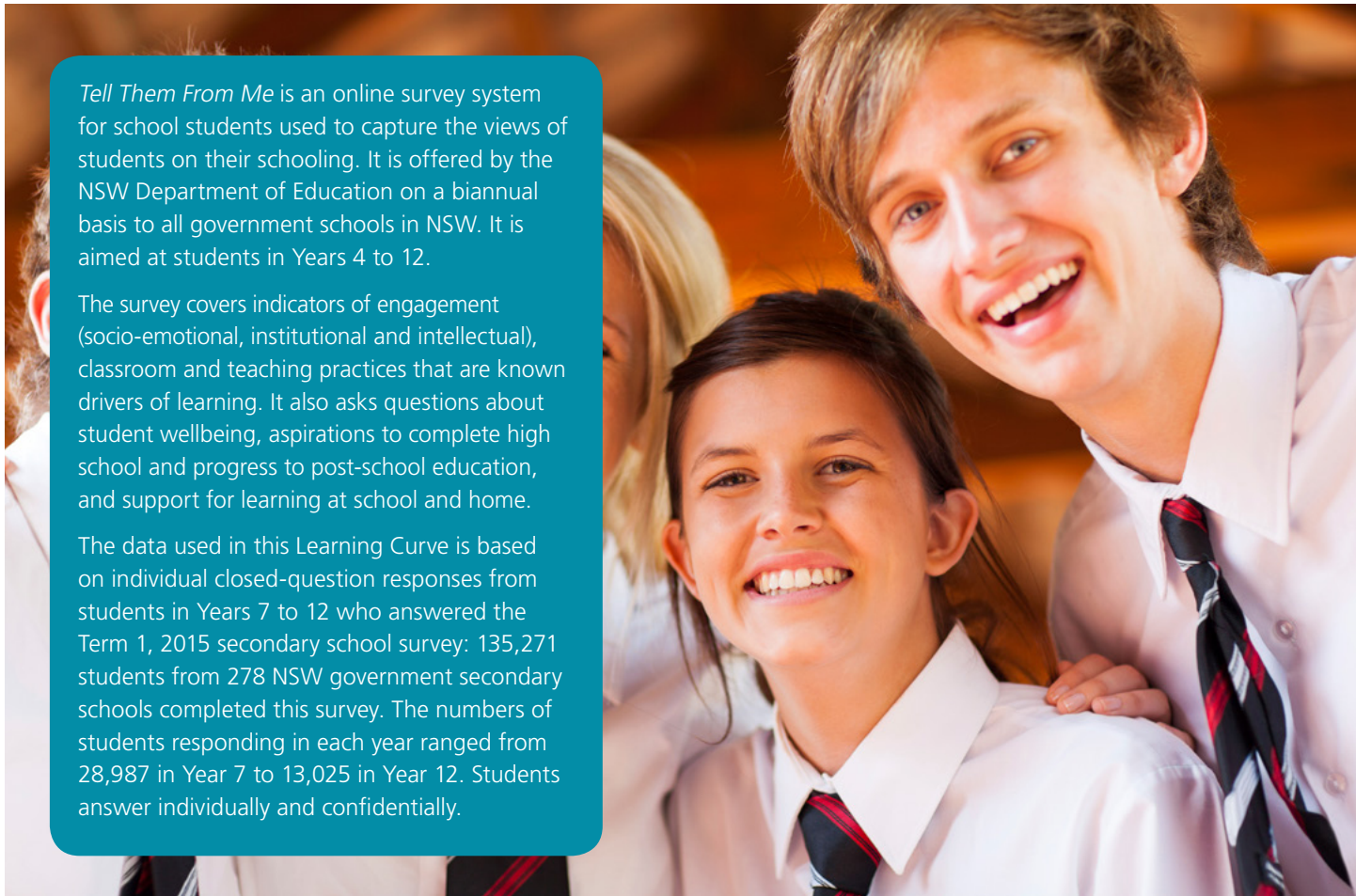
Research from the field of psychology points to the fact that there is little variance between males and females across most psychological measures and that boys and girls are, in fact, more alike than different (Hyde 2005). Hattie, based on this and other gender research, says that the differences between males and females should not be of major concern to educators and that there is more variance within groups of boys or girls than between them (Hattie 2009). Gill (2013) concurs, stating that there are far greater areas of similarity than differences between boys and girls in terms of learning capacities.

Other research maintains that gender is important in education – particularly the ways in which students respond to assumed gender norms. That is, girls or boys may deliberately conform to gender stereotypes in order to fit in, or may even deliberately adopt the traits of the opposite gender in order to subvert existing gender stereotypes. For instance, boys may pretend not to be interested in school work as it is ‘unmasculine’ to look like you are working hard (Jackson 2003); girls may conform to gender stereotypes such as compliance and good behaviour, to fit in.

Gender and student engagement

There are surprisingly few studies that look specifically at gender and student engagement at school (Ueno and McWilliams 2010; Lieteart et al. 2014; Frawley et al. 2014), although gender as a variable of interest may arise incidentally out of studies looking at engagement more broadly (for example, Gillen-O’Neel and Fuligni 2013). There are also very few studies that investigate gender gaps using student voice as a source of evidence (Frawley et al. 2014). Most studies that do focus on gender in education appear to be more concerned with gender and achievement. A particular concern in the literature is the notion of ‘underachieving boys’: Is it an issue? Where is it occurring? How should we address it? (See, for example, Jha and Kelleher 2006; Younger and Warrington 2005; Alloway et al. 2002; Martino 2001; Epstein et al. 1998).

The few studies that look at gender and engagement specifically (and use student voice as a source of evidence), tend to focus only on certain aspects of engagement such as anxiety/ depression and/or wellbeing. For example, several northern European studies have looked explicitly at happiness and wellbeing among primary and secondary school girls and boys (Palsdottir et al. 2012; Lohre et al. 2013; Uusitalo-Malmivaara 2014). Various studies have also examined anxiety and depression amongst girls and boys at school. For instance, Tramonte and Willms (2012) look at the prevalence of anxiety and emotional discomfort for boys and girls in middle and high school in Canada based on the Canadian *Tell Them From Me* survey.



Tell Them From Me is an online survey system for school students used to capture the views of students on their schooling. It is offered by the NSW Department of Education on a biannual basis to all government schools in NSW. It is aimed at students in Years 4 to 12.

The survey covers indicators of engagement (socio-emotional, institutional and intellectual), classroom and teaching practices that are known drivers of learning. It also asks questions about student wellbeing, aspirations to complete high school and progress to post-school education, and support for learning at school and home.

The data used in this Learning Curve is based on individual closed-question responses from students in Years 7 to 12 who answered the Term 1, 2015 secondary school survey: 135,271 students from 278 NSW government secondary schools completed this survey. The numbers of students responding in each year ranged from 28,987 in Year 7 to 13,025 in Year 12. Students answer individually and confidentially.

Methodology

This paper reports two types of analysis: a multilevel regression analysis (Table 1) which shows the gender gap after controlling for school and student level variables, and descriptive graphs that show the gender gap without controlling for school and student level variables (Figures 1-7).

The multilevel regression analysis was undertaken on each survey measure to analyse the difference gender makes *after controlling for* school and student level variables (Table 1). The coefficients marked in bold in the table are those that are statistically significant. The table shows the *additional* difference gender makes to each engagement measure after controlling for other student- and school level variables such as socio-economic status, Language Background Other Than English (LBOTE), Aboriginal and Torres Strait Islander (ATSI) background, school type and school location.

The 'gender' coefficients in the regression analysis table (i.e. the top row of the table) show the difference in engagement between the reference group (Year 7 non-Aboriginal, non-LBOTE boys in average SES, metro, non-selective schools), and otherwise similar girls. The school- and student-level interaction coefficients in the table (i.e. every other row of the table) show how the gender gap changes with comparison to the reference group for that variable. These interaction coefficients can be added to

the 'gender' coefficients² to predict the impact a student- or school-level variable has on the gender gap. It is important to note that the interaction coefficients do not look at whether a particular variable (e.g. LBOTE status) is associated with higher or lower levels of engagement than the reference group (e.g. non-LBOTE status).

For example, the regression analysis shows that boys and girls in remote schools have behaviour that is less similar to each other, than boys and girls in non-remote schools who have behaviour that is more similar to each other. Similarly, boys and girls in selective schools have levels of positive behaviour that are more similar to each other, than boys and girls in non-selective schools whose behaviour differs more from each other. The school and student level interaction coefficients in Table 1 *do not* show whether boys in selective schools have more positive behaviour than boys in non-selective schools, or whether girls in remote schools have more positive behaviour than girls in non-remote schools.

Further information on the *Tell Them From Me* survey and the data analysis methods used for this paper can be obtained by contacting CESE.

Table 1: Multilevel model results for male and female engagement at school

| | | Aspirations | | | Positive student behaviour | Anxiety | Positive sense of belonging |
|--|----------------------------|---------------|---------------|---------------|----------------------------|---------------|-----------------------------|
| | | Year 12 | VET | University | | | |
| | Gender (male) | -0.255 | -0.674 | -0.297 | -0.518 | -0.904 | 0.108 |
| Interaction between gender and student and school level variables | Year 8 | -0.051 | 0.262 | 0.033 | -0.087 | -0.443 | 0.191 |
| | Year 9 | -0.052 | 0.358 | -0.039 | 0.000 | -0.728 | 0.421 |
| | Year 10 | -0.130 | 0.453 | -0.088 | -0.049 | -0.598 | 0.270 |
| | Year 11 | -0.110 | 0.567 | -0.086 | 0.147 | -0.567 | 0.197 |
| | Year 12 | 0.113 | 0.613 | -0.006 | 0.148 | -0.279 | 0.135 |
| | SES | 0.081 | 0.137 | 0.075 | 0.012 | 0.126 | -0.020 |
| | Aboriginal | -0.323 | -0.148 | -0.193 | -0.162 | 0.190 | -0.053 |
| | LBOTE | 0.051 | 0.046 | 0.120 | 0.083 | 0.423 | -0.086 |
| | Central school | -0.249 | 0.149 | -0.249 | -0.247 | -0.009 | 0.081 |
| | Provincial school | -0.298 | 0.044 | -0.446 | -0.159 | -0.165 | 0.068 |
| | Remote school | -0.504 | 0.086 | -0.222 | -0.399 | 0.599 | -0.305 |
| | Fully selective school | 0.243 | -0.212 | 0.143 | 0.155 | 0.014 | -0.141 |
| | Partially selective school | 0.195 | -0.074 | 0.266 | 0.096 | 0.019 | 0.049 |
| Single sex school | 0.355 | 0.278 | 0.389 | 0.361 | 0.247 | -0.063 | |

Note: The numbers in the table are coefficients; bold font indicates the results are statistically significant. Refer to the methodology section for further explanation.

² Note, the resulting predictions also need to be read in reference to the student and school variable coefficients. For simplicity's sake, these coefficients have not been included in this table, but can be obtained from CESE if required.

Tell Them From Me findings³

The NSW *Tell Them From Me* survey collects data on a broad range of engagement measures. Data from the NSW survey shows that there is a gender gap across most forms of engagement, including in areas such as positive relationships, student-reported rigour and homework behaviours⁴. While most of these gaps are reasonably small, all are statistically significant and some clear trends are apparent, most notably in regard to student aspirations, behaviour, anxiety, and sense of belonging. The following section goes on to look at each of these measures in more detail.



Aspirations

Aspirations in a school education context can be considered to be beliefs regarding future plans (education and/or employment) (Kahattab 2015). The *Tell Them From Me* survey asks students whether they are planning to complete Year 12, planning to complete university and/or planning to complete a VET course.

Aspirations are important as, according to Longitudinal Surveys of Australian Youth (LSAY) research (Homel and Ryan 2014), planning to complete Year 12 increases the probability of actually doing so by 20 to 25 percentage points, while planning to undertake university studies increases the probability of actually doing so by 15 to 20 percentage points. Aspirations have a similar impact on educational outcomes regardless of background characteristics such as socioeconomic status or indigenous status (Homel and Ryan 2014).

According to the *Tell Them from Me* survey, girls in NSW are more likely to aspire to finish Year 12 than boys (Figure 1), more likely to aspire to go on to university than boys (Figure 2) and more likely to aspire to go on to VET courses in the early years of high school than boys. The gender gap in Year 12 completion and university aspirations remains reasonably consistent from Year 7 to Year 12, with both genders experiencing a dip in aspirations in Years 9 to 10. Boys are just as likely to indicate they are planning to go on to VET courses than girls from the middle years of high school (Figure 3).

Figure 1: Students planning to finish Year 12

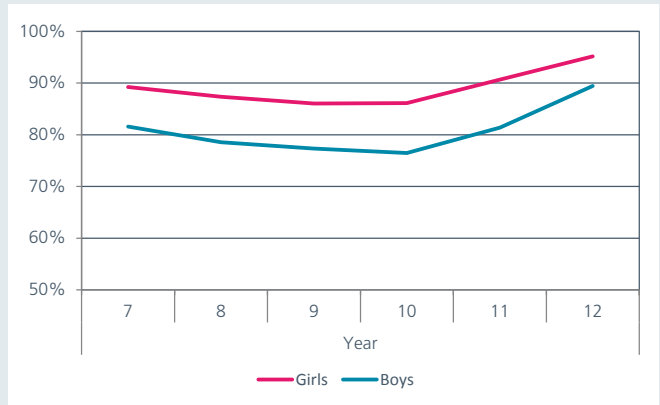


Figure 2: Students planning to go to university

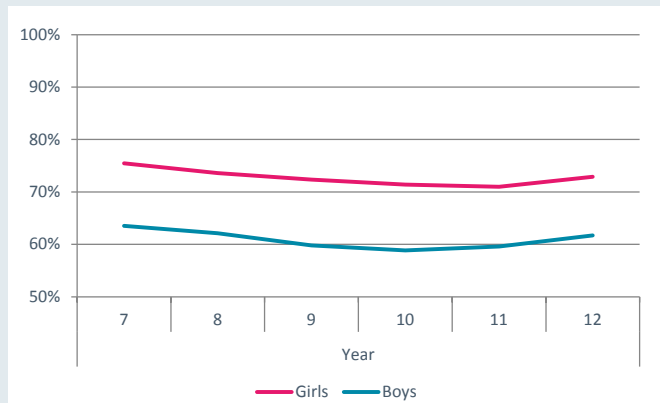
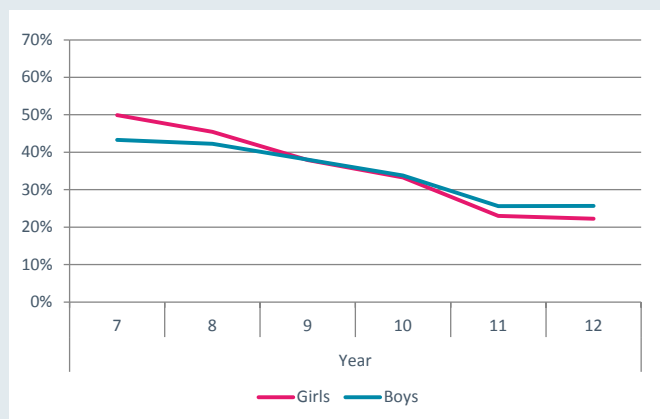


Figure 3: Students planning to do an apprenticeship or VET course



³ Note all graphs in this section are descriptive only. They do not draw on the multi-level modelling, but rather show the gender gap prior to controlling for variables.

⁴ This is after controlling for other variables such as SES, ATSI, school type, school location etc. This means gender is an influence independent of these other factors.

The finding from the *Tell Them From Me* data that girls in general are more likely to aspire to complete Year 12 and go on to university, tallies with the existing research in the area of gender and aspirations at school (see, for example, Gemici 2014; Beavis et al. 2004; Roberts et al. 2014). This is a reversal of the trend from thirty to forty years ago when studies showed that boys both aspired to, and expected, higher levels of educational attainment than girls (see, for example, Marini and Greenberger 1978).

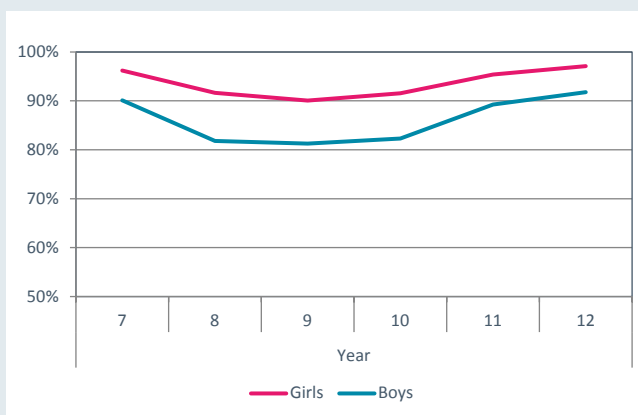
The expectations teachers have of students may affect (or alternatively be affected by) the aspirations girls and boys have at school. The fact that girls tend to perform better academically at school than boys⁵ may also be the reason why more girls aspire to finish Year 12 and go on to university than boys. It is also possible that aspirations are driven somewhat by girls feeling they need to have higher qualifications to be as economically successful as boys; and/or boys knowing they may not need the same qualifications as girls to achieve the same earnings. In NSW, the gender pay gap (in favour of men) is at its highest level ever at 19.3 per cent and the women's labour force underutilisation rate in NSW is 16.9 per cent compared to 12.1 per cent for men (NSW Government 2015).

Student behaviour

Student behaviour refers to the behaviours of students that occur in the learning environment such as whether students are listening to their teacher or being disruptive. There is a well-established link in the literature between student engagement, student behaviour and academic achievement (Sullivan et al. 2012). The *Tell Them From Me* survey asks students five questions about behaviour at school during the previous four weeks. These questions relate more to low-level disruptive behaviours (Sullivan et al. 2012) such as disrupting the flow of a lesson or making impertinent remarks, than aggressive anti-social behaviour. Students with 'positive behaviour', on average, reported low levels of disruptive behaviour.

The *Tell Them From Me* data shows that overall, boys report less positive behaviour than girls at school and are more likely to be disruptive in class, lie or cheat, or break the rules (Figure 4). The gender gap occurs throughout secondary school, but narrows in Years 11 and 12. The regression analysis reveals that the gender gap is particularly notable among Aboriginal students, and students from provincial, remote and central schools; but is smaller in selective and single sex schools.

Figure 4: Students with positive behaviour



A critical analysis of the literature concurs with the finding of the *Tell Them From Me* data – namely that overall boys are found to display more disruptive behaviour at school than girls. For example, in a study of teachers' perceptions of students' problem behaviours in secondary schools in Victoria, Little (2005) found that approximately two in three troublesome students in an average Australian secondary class were boys⁶. Crawshaw (2015) in a study of secondary school teachers' perceptions of student misbehaviour, between 1983 and 2013, found that teacher perceptions of serious student misbehaviours were largely consistent over time and between countries.

Beaman et al. (2007) offer an explanation for the gender gap, noting that there is a difference in the way boys and girls present symptoms of disruptive behaviour disorders and thus come to the attention of the teacher: namely that boys tend towards externally directed behaviours generally associated with acts that are harmful to others or the environment, such as stealing or lying; whereas girls are more likely to display internally focused behaviours such as anxiety, withdrawal and shyness (Kann and Hanna 2000 [cited in Beaman et al. 2007]).



5 A gender analysis of NSW NAPLAN from 2008 to 2014 shows that girls have higher means scores than boys in all scholastic years and across all areas except Numeracy (NSW Government 2015).

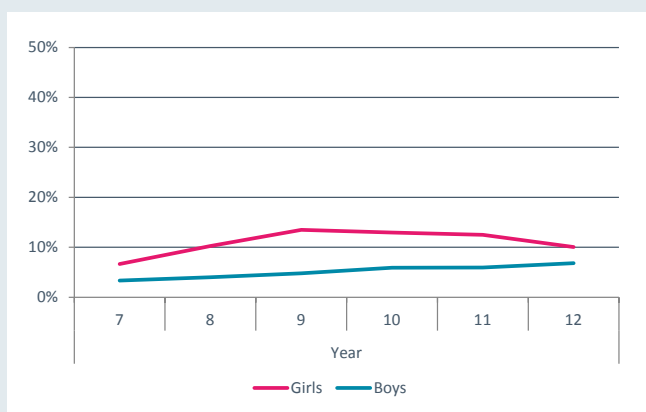
6 For other examples, see Beaman et al. 2007; Ho and Leung 2002; Walker 2009; Frawley et al. 2014.

Anxiety

The *Tell Them From Me* Survey in 2015 asked students six questions about general anxiety⁷. Anxiety can be a concern for schools and teachers, both in terms of its implications for young people's social and academic achievements, and creating a school environment that can support the health and wellbeing of all members of the school community. Happiness is strongly connected to student engagement and motivation; conversely, anxiety lessens students' ability to problem-solve, while hope and pride can increase self-efficacy (Zakrzewski and Brunn 2015).

According to the *Tell Them From Me* data, girls in secondary school report far higher levels of anxiety than boys (Figure 5). Of all the *Tell Them From Me* measures, this was the measure with the greatest gender gap. Girls report higher levels of anxiety than boys across all year levels at school. However, while girls reported having higher levels of anxiety than boys across the board, the data did show the gap was narrower among certain groups of students. For instance, the gender gap is approximately half as large for students from a language-background-other-than-English (LBOTE), as for other students; similarly the gender gap is narrower among Aboriginal students and for students in remote schools and among high-SES students.

Figure 5: Students with high levels of anxiety



The gender gap between boys and girls in relation to anxiety corresponds with other research which shows that girls are more likely to display anxiety at school than boys. For example the NSW School Students Health Behaviours Survey showed that girls aged 12-17 were more likely to feel unhappy, depressed, nervous or stressed than boys of the same age (Centre for Epidemiology and Evidence 2014). In a study of *Tell Them From Me* emotional health data from Canada, Tramonte and Willms (2012) found, similar to the Australian study, that girls in middle school (Years 6-8) and high school (Years 9-12) report consistently higher levels of anxiety than boys. However, in contrast to the Australian data, boys' anxiety overtakes girls' by the last two years of high school. In the NSW case, the gap narrows, but does not disappear or reverse.

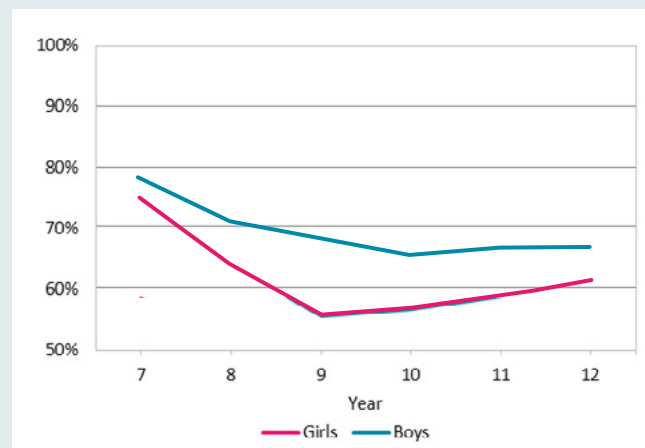
Tramonte and Willms (2012) note that the prevalence of anxiety in Canadian schools did not vary substantially among either middle or secondary schools and it is unlikely to be the result of any in-school influences in particular. They note, however, that girls with low levels of skills tend to be more at risk than boys of experiencing anxiety (Tramonte and Willms 2012). Uusitalo-Malmivaara (2014), in a study of happiness among 12 and 15 year old students in Finland, also found that girls with a high grade-point average were happier than other girls (both globally and at school), but no such differences appeared among boys.

Sense of belonging

A student's sense of belonging at school refers to the extent to which students identify with and value schooling outcomes, and participate in academic and non-academic school activities (Willms 2003). It relates to students' feelings of being accepted and valued by their peers and by others at school. Students who have a strong sense of belonging tend to be happier, have a greater interest in school activities and are more confident (Osterman 2000; Furrer and Skinner 2003; Phan 2013). The *Tell Them From Me* survey asks students six questions about their sense of belonging at school.

The *Tell Them From Me* data shows that, generally speaking, boys report a greater sense of belonging at school than girls. (Figure 6). While this is true throughout the high school years, it is particularly visible in Year 9, where girls' sense of belonging experiences a noticeable dip compared to boys. The only context

Figure 6: Students with a positive sense of belonging



⁷ Note these questions provide a general population-based measure of anxiety. In 2016, the anxiety measure was replaced by a broader wellness measure that allows for greater distinction between students. It is important to note that there can be a gap between self-reported anxiety and anxiety measured in other ways.

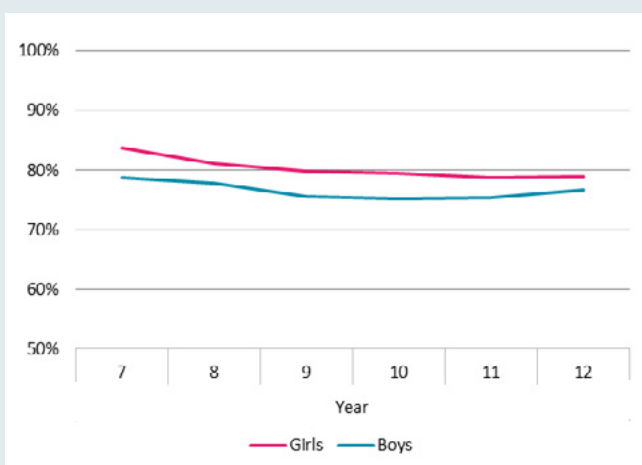
in which girls reported experiencing a greater sense of belonging at school than boys is at remote schools, and at fully selective schools. Sense of belonging was found to be similar between LBOTE girls and boys.

The finding that boys have a higher sense of belonging at school in NSW than girls appears to be the reverse of the findings of most of the literature to date. It is usually found that girls have a greater sense of belonging at school than boys (see, for example, Gillen-O’Neel and Fuligni 2013; Smerdon 2002; Goodenow 1993). Gillen-O’Neel and Fuligni (2013) claim that girls may have a greater sense of belonging at school because, from an early age, schools’ and teachers’ behavioural expectations are more consistent with behaviour that is more typical among girls. Sanchez et al. (2005) identify a higher sense of belonging among girls in general as being congruent with the idea that relatedness is important among girls and women. PISA data from 2012, however, shows that sense of belonging at school varies between countries⁸, and PISA data from NSW aligns with the *Tell Them From Me* findings, with boys reporting a higher sense of belonging than girls at school in NSW (OECD 2013).

The difference between the *Tell Them From Me* findings and the findings reported in some of the existing literature, may relate to the fact that most of the existing literature is based on US studies (or a central American study in the case of Sanchez et al. 2005). OECD data also shows that Australia has a significantly lower proportion of female principals than male principals in secondary schools compared with the TALIS⁹ average (Freeman et al. 2014). In NSW, only 42 percent of secondary school principals in government schools are women (NSW Department of Education 2015). This could explain particularly why in NSW (compared with other countries) boys feel a greater sense of belonging at school (as they connect with the male leaders at school), but girls have more positive relationships with other students (as they connect with their fellow female peers) at school (Figure 7). In addition to different cultural contexts, the different scales used in different studies may also contribute to different outcomes.



Figure 7: Students with positive relationships



⁸ In 20 of the 65 countries and economies that took part in PISA 2012, girls had a stronger sense of belonging than boys, while in 13 countries and economies, boys had a stronger sense of belonging.

⁹ TALIS is the OECD teaching and learning international survey.

Conclusion

The NSW *Tell Them From Me* student survey data consistently reveals gaps between girls and boys on measures of student engagement and wellbeing. Girls in NSW schools are likely to have higher aspirations than boys, to behave better at school and are more likely to comply with school expectations, such as completing homework. They are, however, also more likely to have higher levels of anxiety than boys. On the other hand, while boys are more disruptive at school and tend to have lower aspirations, they also have a greater sense of belonging at school than girls, and are less likely to feel anxious than girls.

The gap between boys and girls is smaller, however, when looking at students from particular subgroups or types of schools. For example, the gender gap is narrowed for LBOTE students when it comes to sense of belonging and anxiety. This narrowing of the gender gap is also seen across some measures with Aboriginal students, most notably with the anxiety measures. Interestingly, SES, while having a bearing on engagement per se, does not have much of a bearing on the gender gap except with regard to narrowing the gap for VET aspirations and anxiety.

The gender gap is reversed in remote schools in terms of sense of belonging and narrower with regards to anxiety. The gender gap in selective schools (and partially selective schools) is smaller compared with other school types, for attendance, sense of belonging (fully selective only), positive behaviour, Year 12 aspirations and university aspirations (fully selective only).

The findings of this paper indicate the importance of considering gender in the context of engagement. However, they also show that gender should not be considered in isolation. Other factors such as school type and individual student characteristics can also be as important, or more important, than gender. As Frawley et al. (2012) note, it is time to move beyond the current assumptions that all boys are struggling and all girls are doing well. The relationship between gender and engagement is more complex than this and it is necessary to consider 'which' boys and 'which' girls are engaged and/or disengaged and in what ways their engagement is expressed.



In single sex schools, the gender gap is narrowed in relation to anxiety and positive behaviour. In other words, boys and girls who attend single sex schools have more similar levels of anxiety and positive behaviour to each other, than girls and boys who attend co-ed schools. In single sex schools, the aspirations gap is also narrowed or reversed. Boys who attend single sex schools have higher aspirations for Year 12 and university than girls who attend single sex schools, and boys and girls in single sex schools have more similar VET aspirations to each other than boys and girls in co-ed schools.

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