The purpose of this case study was to ascertain the perceptions of teachers regarding achievement and conscientiousness of girls and boys. Expectancy-Value Theory was used as the theoretical framework for this study. Seven teachers were interviewed from one co-educational school in Melbourne, Australia. These teachers taught across diverse subject areas and had varied career experiences. Teachers from humanities based subjects appeared decisive in their perception that girls’ academic performance was higher than boys. However, the Mathematics teachers were more mixed in their perceptions of academic performance. All of the teachers thought that girls were more conscientious in the early years of high school, but levels of conscientiousness were more even for boys and girls in the senior years of high school. Reasons were given for these perceived differences. They included boys’ lower maturity levels in the early years of high school and work avoidance; girls’ greater ability to be engaged in their learning; school was more conducive to girls; boys’ literacy levels were lower than girls’; and the different influences of important persons in the lives of students and their learning.

Introduction

“Educational statistics have indicated that females are outperforming males at all levels of the school system, attaining more school and post-school qualifications, and attending university in higher numbers” (Gibb, Fergusson, & Horwood, 2008, p. 63). It is almost taken for granted that girls will outperform boys. Sometimes it is stated as fact, “Girls outperform boys in school” (Holmlund & Sund, 2008, p. 37).

Is this how teachers of boys and girls perceive their students? Do teachers believe that girls are more conscientious and achieve at a higher level than boys? The aim of this case study was to ascertain whether teachers perceived gender differences in the achievement and conscientiousness of their students. A further aim of this case study was to understand that if differences existed, then what reasons are behind these perceived differences.

Theoretical Framework

When discussing the concepts of achievement and conscientiousness, motivation is very much embedded. Achievement goal theory discusses how motivation to achieve goals influences academic achievement (Ames, 1992; Dweck, 1986; Urdan & Maehr, 1995). Hart, Stasson, Mahoney, and Story
(2007) propose that conscientiousness is positively related to motivation, and a lack of conscientiousness is correlated to a lack of achievement motivation (Preckel, Holling, & Vock, 2006). Expectancy-Value Theory (EVT) suggests that motivation is mediated by a student’s expectation of success or achievement in a given activity, and by the subjective value that the student places on a given activity. These are said to come together to explain the degree to which a student maintains motivation to achieve in an activity (Eccles et al., 1983; Wigfield, 1994; Wigfield & Eccles, 2000). Eccles et al. (1983) theorised that there are four different components of the model related to achievement values. First, there is attainment value, which pertains to the value placed on the attainment of a certain goal. Second, there is intrinsic value, which is the internal value assigned to the task by the student. Third, there is the utility value of the task, which pertains to the perceived usefulness of the task in the student’s life, either presently or in future. Last, there is cost, which is defined as all of the negative aspects of completing the task. An example is the cost of focusing on a task in school and the impact on the student’s opportunity to socialise (Wigfield & Eccles, 2000).

In their analysis of conscientiousness as part of the five-factor model of personality, Costa, McCrae, and Dye (1991) proposed six facets of conscientiousness. These included: competence in the sense that one is capable and accomplished; an orderly environment; planning and thoughtfulness; adherence to standards; striving for achievement; self-discipline in terms of persistence, including the will to continue with a task despite boredom. They propose that a highly conscientious person would be: highly capable; maintain an environment that was tidy; plan thoroughly; strictly adhere to standards; have a will to achieve, which includes persistence to a task even if the task was boring or there were other distractions. According to EVT, students who value tasks highly and expect to be successful will plan goals and show persistence (Eccles et al., 1983; Wigfield & Eccles, 2002). Additionally, according to Magidson, Roberts, Collado-Rodriguez, and Lejuez (2014), a highly conscientious person is one who values achievement and is influenced by their own perceptions of their capabilities. This led Magidson et al. (2014) to suggest that EVT and conscientiousness are thematically similar.

In their proposal of EVT, Eccles et al. (1983) argued that attainment and intrinsic values were crucial to student engagement. They felt that if a task had both intrinsic and attainment value, then an individual was more likely to engage in the task. Further, Wigfield and Eccles (1992) claimed that how individuals perceive their ability to succeed determines whether they will or will not continue to engage on a task. It would appear that EVT’s mediators of motivation, namely, expectancy of success and subjective value, have an important role in student engagement.

Gender plays a significant role in EVT due to males’ and females’ differing expectancy beliefs, particularly when in high school. Expectancy beliefs are generally similar for males and females in childhood (Eccles, Wigfield, Harold, & Blumenfeld, 1993). However, girls’ perceptions of their ability to succeed in Mathematics have been found to reduce as they move into the higher years in school (Eccles, 1985); as a consequence, they were found to be less likely to choose more difficult Mathematics courses (Watt, 2005). On the other hand, a similar trend of lower achievement expectations have been found for boys with respect to English (Eccles, 1985; Eccles et al., 1993).

Expectancies for children’s successes are influenced by significant others in the children’s lives most notably, parents, teachers and peers (Eccles & Harold, 1991). Wigfield (1994) suggested that these significant others influenced the value children placed on a task, as too was the broader cultural milieu in which the children find themselves.
Academic Achievement

Academic Data

Recent data taken from large scale external testing regimes in Victoria (Australia) show that girls generally outperform boys overall. At the end of schooling, students are assigned an ATAR (Australian Tertiary Admission Rank) based on their achievements in subjects studied at the Year 12 level. A higher score means that the student gained better results compared to others, with the highest possible score being 99.95. In Victoria in 2013 (the year prior to that in which the present study was conducted), the mean ATAR for males was 63.26 and for females it was 65.35 (Victorian Tertiary Admissions Centre, 2013).

The National Assessment Program for Literacy and Numeracy [NAPLAN] is conducted annually in Australia for students in Years 3, 5, 7, and 9. Mean scores at the Year 9 level are shown in Table 1. Girls, on average, outperformed boys in the four literacy categories (Reading, Spelling, Persuasive writing, and Grammar and punctuation), with boys outperforming girls in Numeracy.

Table 1
Year 9 NAPLAN results in Victoria for 2013

<table>
<thead>
<tr>
<th></th>
<th>Male Mean Score (S. D.)</th>
<th>Female Mean Score (S. D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>579.2 (61.4)</td>
<td>590.3 (59.3)</td>
</tr>
<tr>
<td>Persuasive Writing</td>
<td>545.7 (83.3)</td>
<td>583.2 (72.6)</td>
</tr>
<tr>
<td>Spelling</td>
<td>575.0 (66.1)</td>
<td>590.5 (61.1)</td>
</tr>
<tr>
<td>Grammar and Punctuation</td>
<td>567.2 (73.0)</td>
<td>587.7 (69.4)</td>
</tr>
<tr>
<td>Numeracy</td>
<td>596.1 (80.3)</td>
<td>580.4 (74.5)</td>
</tr>
</tbody>
</table>

*Note.* All NAPLAN tests for Year 9 are scored between 0 – 800.

Taken together, the ATAR data and the NAPLAN Year 9 results in 2013 indicate that, in Victoria at the high school level, females were generally outperforming males based on these measures, although in particular disciplines (e.g., numeracy), gender stereotyped patterns of female underachievement persist (seeForgasz, 2011 for NAPLAN results by gender over time).

Reasons for gender differences in Academic Achievement

Mathematics

The 2013 Year 9 NAPLAN data (see Table 1) reveal that boys outperform girls in Numeracy. It has also been reported that in the state of Victoria, the highest achievers in the mathematics courses offered at the Year 12 level were predominately boys (Forgasz & Hill, 2013). It seems that boys are performing at a level that is, on average, higher than that of girls in mathematics.
The reasons why boys often outperform girls in mathematics has been explored. Girls can develop negative stereotypes about females’ mathematics ability and they can display lower self-concept than boys with respect to mathematics as early as preschool (Gunderson, Ramirez, Levine, & Beilock, 2012). Hartley and Sutton (2013) suggested that while boys are generally stereotyped as academically inferior to girls, Mathematics was stereotypically associated with boys and this had a negative impact on girls’ achievement in Mathematics. As discussed earlier, girls, compared to boys, can develop lower expectancy beliefs in Mathematics in high school (Eccles, 1985; Eccles et al., 1993).

**Literacy**

The 2013 Year 9 NAPLAN data (see Table 1) show that boys are behind in all of the literacy areas. One reason for this could be that literacy subjects have been stereotyped as feminine. It has been noted that “the fact that school-based literacy has come to be identified as feminised practice, contributes towards a construction of school-based literacy…as unmasculine and undesirable to many young boys” (Alloway & Gilbert, 1997, p. 55). Hedges and Nowell (1995) suggested that girls are cognitively more able than boys in reading comprehension based on average cognitive test scores in this area. The 2013 Year 9 NAPLAN data (see Table 1) affirms that girls outperform boys in literacy based tasks.

Falling behind in literacy can have a significant impact on students. Reschly (2010) argued that difficulty in learning to read in the first few years of school is detrimental to students’ academic development, and that these early difficulties are magnified over time, with students falling further behind their peers academically. Eccles (1985) also found that boys’ expectancy for success in written subjects lowers as they get older.

**Engagement**

In their study of boys’ engagement in school, Lam et al. (2012) conceptualised student engagement as a meta-construct that comprises affective, behavioural, and cognitive dimensions. Affective refers to students’ feelings about learning, behavioural refers to students’ participation in learning, and cognitive refers to the cognitive strategies students employ. These cognitive strategies can be deep processing with cognitive elaboration of the material or they can be shallow, which involves rote memorisation, basic rehearsal and other superficial strategies. Based on this conceptualisation, Lam et al. (2012) suggested that boys are less likely than girls to be engaged in school, and that this can account at least partially for the gender gap in academic performance. It has been noted that difficulty with reading can interfere with a student’s engagement at school (Reschly, 2010). The NAPLAN data (Table 1) suggests that reading difficulties are more prevalent among boys and hence their engagement at school may be negatively influenced by this.

Teachers appear to play an important role in engaging their students, particularly boys. Munns et al. (2012) observed that teachers who exhibit an interest in, and know, their male students, have greater success in motivating and engaging boys, leading to higher levels of academic achievement. Additionally, Munns et al. (2012) suggested that teachers who linked the classroom-based curriculum with the outside world increased the relevance and meaning of schooling for boys and resulted in higher levels of learning engagement and academic achievement.
Influence of Other Persons

Parents play a role in helping their children in their academic endeavours; in fact “educational psychologists place great importance on parental involvement to elevate educational outcomes” (Jeynes, 2007, p. 83). Indeed, it has been found that high achieving children are more likely to come from families in which parents have strong academic backgrounds and have high academic and career expectations for their children (Jacobs & Harvey, 2005).

Teachers seem to have a role to play in increasing the academic achievement of their students, as do the students’ peers. Hattie (2008) indicated that teachers who built positive relationships with their students were effective in raising their academic achievement. Boys in particular attached considerable importance to teachers showing a genuine interest in them personally (Smith & Wilhelm, 2002). Stewart (2008) concluded that students who formed a stronger attachment to their school through positive, caring relationships with teachers and friends were significantly more likely to achieve at a higher level. This is supported by Roseth, Johnson, and Johnson (2008) who concluded that the more positive relationships an early adolescent had, the higher they tended to achieve.

However, in Australian culture, which is encompassed by western culture, boys themselves resist relationships with teachers and parents (Raider-Roth, Albert, Bircann-Barkey, Gidseg, & Murray, 2012). This culture can make it challenging for teachers to develop important connections (Weaver-Hightower, 2014) and it suggests to boys that they should disconnect from their parents (Dooley & Fedele, 2004). This lack of genuine relationships between boys and their teachers and their parents could be a possible explanation for some boys’ lower achievement at school.

Conscientiousness

Reasons for gender differences in levels of Conscientiousness

In this study, the definition of a conscientious person adopted was that described in the work of Costa et al. (1991) discussed earlier, which described six facets of conscientiousness. These included: competence; an orderly environment; planning and thoughtfulness; adherence to standards; striving for achievement; and self-discipline in terms of persistence. In the literature, work avoidance and social influences were seen as having a negative impact upon boys’ levels of conscientiousness.

Work Avoidance

Consistent with the definition of conscientiousness offered by Costa et al. (1991), Diseth, Pallesen, Brunborg, and Larsen (2010) suggested that a conscientious student is one who puts heightened effort into their studies and achieves at a higher academic level. In their study of gender and work avoidance among adolescents, Dekker et al. (2013) described students who were work avoidant as those who put little effort into achieving good grades. Their study found that boys were twice as likely to be work avoidant than girls and that “the higher frequency of work-avoidant goals in boys aged 14–19 years may explain the gender gap in achievement” (Dekker et al., 2013, p. 199). This is supported by Steinmayr and Spinath (2008) who indicated that girls had a lower tendency to avoid work compared to boys, and therefore outperformed boys academically. Freudenthaler, Spinath, and Neubauer (2008) also found that girls were more conscientious than boys, and that enjoying what they are doing was particularly important to boys; girls, on the other hand, were more likely to persist on tasks that they
might not like. As school work may not always be enjoyable, boys may appear to be work avoidant when, in reality, they simply do not like the school work.

**Social Influence**

The social construction of what it means to be male and how masculinity is formed can be harmful to boys’ conscientiousness. Epstein, Elwood, Hey, and Maw (1998) argued that academic work can be perceived as feminine and that rejecting academic work is a defence against the charge of being “gay”, which lowers the value boys place on this work. They also suggest that this has a significant impact upon how boys engage with the academic curriculum and can be a cause of reduced dedication to academic work.

Supporting the social construction of masculinity, gender stereotypes define boys as less conscientious than girls (Rudman & Glick, 1999), with children as young as four being aware of the stereotype that males are less academically able than females (Hartley & Sutton, 2013). Hartley and Sutton (2013) suggested that these stereotypes can significantly impact boys’ conscientiousness and academic performance because they are reminded that they lack the discipline required to scale the same academic heights as girls.

**Relationship between Conscientiousness and Academic Achievement**

It has been found that highly conscientious students usually attain a higher academic standard, and that conscientiousness is a greater predictor of academic performance than academic ability or any other personality trait (Conard, 2006). In another study, it was observed that higher conscientiousness appeared to be conducive to higher academic achievement, and that the facets of conscientiousness are related to academic success (Martin, Montgomery, & Saphian, 2006). Further, the trait of conscientiousness was found to directly affect the academic achievement of school aged students (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011). From these studies, it would appear that conscientiousness and academic achievement are closely related.

**The Present Study**

The aim of the present study was to ascertain whether the phenomenon of gender differences in academic achievement and conscientiousness are perceived by teachers who have current, first-hand experience of co-educational class groupings. An additional aim was to determine the reasons why these teachers feel there are gender differences in achievement and conscientiousness. An exploratory case study was used, as this type of research is useful when the outcomes are not clear and in situations in which “why” questions are answered (Baxter & Jack, 2008).

**Participants and Research Approach**

Seven teachers from one co-educational secondary school in Victoria, Australia participated, out of a total of 65 teaching staff. After a call for volunteers, participants for the study were selected so that a blend of key participant characteristics, including gender, teaching experience, and subjects taught, were evident. A summary of the characteristics of the participating teachers is shown in Table 2.
Table 2

Characteristics of participating teachers

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Years of Experience</th>
<th>Subjects Taught</th>
<th>VCE Subjects Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>37</td>
<td>Mathematics</td>
<td>Specialist Maths, Maths Methods</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>1</td>
<td>English, History and German</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>17</td>
<td>Business Management and Accounting</td>
<td>Business Management and Accounting</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>10</td>
<td>English and History</td>
<td>English and Literature</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>14</td>
<td>English</td>
<td>English</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>29</td>
<td>Mathematics</td>
<td>Maths Methods and Further Maths</td>
</tr>
<tr>
<td>7</td>
<td>Male</td>
<td>5</td>
<td>Mathematics</td>
<td>Further Maths</td>
</tr>
</tbody>
</table>

Based on the findings described in the literature review above, it was considered important that members of the participant group could comment on gender issues associated with literacy and the anomaly of Mathematics as demonstrated in the Year 9 NAPLAN data. Therefore, the participant group consisted of three teachers of Mathematics, three teachers of English and History who would have insight into the literacy levels of boys and girls, and one teacher of Business and Accounting. It was anticipated that this group would hold a broad range of views to help determine if there were gender differences in perceptions of boys’ and girls’ learning across the range of curriculum disciplines.

Each teacher was interviewed using a semi-structured interview protocol. A week prior to interview, the questions were circulated to the participants. This was done so that participants were able to prepare for the interview. Each interview was conducted face-to-face, one-on-one, by the same interviewer and were approximately thirty minutes in duration. The main aim of the interviews was to answer the research question, “Do teachers perceive girls as more conscientious than boys, and do girls achieve at a higher academic level than boys?” Each of the teachers was asked to provide reasons behind their perceptions of boys’ and girls’ academic achievement and conscientiousness. After conducting the interviews, the main themes were derived to help frame an answer to the research question.

The interview questions developed were designed to help establish if teachers perceive gender differences in students’ achievement and levels of conscientiousness. Questions were included to establish if there were perceived gender differences in students’ expectancy beliefs and subjective values. Questions were carefully identified in response to the literature, and also covered the topics of engagement and outside school influences. The questions asked of participants are set out below:

1. In your experience, is there a difference in achievement in your classes between boys and girls?
2. What do you think are the main reasons for any differences in achievement?
3. In your experience, is there a difference in conscientiousness in your classes between boys and girls?
4. What do you think are the main reasons for any differences in conscientiousness?
5. Do conscientious students achieve at a higher level than other students? Why?
6. What elements of an adolescent’s life outside school can impact positively on their achievement and conscientiousness to their school studies? Is it different for boys and girls?
7. What are the elements that impact negatively? Is it different for boys and girls?
8. Do you think that there is a difference in engagement in classroom activities between boys and girls?
9. What do you think are the main reasons for any differences in engagement?

Prior to the interview, each participant was given the definition of a conscientious student as one who is disciplined in their studies, strived to achieve their best and put in their best effort to their studies. The definition of engagement was given as students’ feelings about learning, students’ participation in class, and whether they think deeply about the content or employ shallow thinking strategies like rote memorisation, similar to the conception of engagement provided by Lam et al. (2012). However the participants were free to interpret this definition based on their own thoughts about the concept of engagement.

Data Analyses

The interviews were recorded and transcribed verbatim. As suggested by Pope, Ziebland, and Mays (2000), the transcripts were read through carefully several times in order to identify themes centred on repeated phrases. These themes were indexed into “fuzzy” categories, from which, it was possible to extract excerpts from the interview data for each category and collate them. Pope et al. (2000) argued that this process helps the researcher to develop an intimate knowledge of the data for analysis. In completing this process, a greater understanding of the issues raised by the interview questions were identified and served to answer the research questions.

Results

The findings on teachers’ perceptions of girls’ and boys’ academic achievements and levels of conscientiousness are presented first, followed by a discussion of the relationship between the two.

Teachers’ Perceptions of Boys’ and Girls’ Achievement

When questioned about the achievement levels of boys and girls, five of the seven respondents replied that girls achieved at a higher level than boys in the subjects they taught. The participants who taught non-mathematics related disciplines appeared more decisive in their assertions that female students achieved at a higher level than males. One of the mathematics teachers responded that there was little to no difference in the overall achievements of boys and girls. However, another Mathematics teacher responded that males achieved at a higher level than females in his classes. These teachers’ views were consistent with the literature on boys’ and girls’ academic achievements, and with the patterns in the 2013 Year 9 NAPLAN data presented earlier. In the case study school, the interviewee’s responses suggested that girls generally achieve at higher levels than the boys, except in Mathematics.

When discussing the achievement of boys and girls, all of the participants made the point that they had high achieving students of both sexes. Four participants went further to suggest that the middle
range of students in their classes were predominately girls and that the lower range of students were predominately boys, lending further support to their perceptions that the girls were generally achieving at a higher level than boys.

Each of the Mathematics teachers made the distinction between levels of achievement in earlier secondary school (Years 7 to 9) compared to later secondary school (Years 10 to 12). Each felt that girls outperformed boys in the earlier years of secondary school. However, two of the three said that this achievement trend reversed in Years 11 and 12, and that boys achieved at a higher level than girls in these years. When asked about the reasons for this phenomenon, the Mathematics teachers thought that there was a gap in maturity between girls and boys in the earlier years of high school and for boys, school had little value to them in these years. However, later in schooling, they believed boys were more able to understand why schooling is important for future life, and therefore make a concerted effort to achieve at a higher level. Consistent with Eccles (1985) assertion that girls’ expectancy for success in Mathematics lessens as they age, one of the Mathematics teachers also thought that girls lose their confidence to study Mathematics in Years 8 to 10.

When the participants were asked for reasons why there were perceived gender differences in achievement, a wide range of ideas were put forward. Participants from the English area thought a major reason for the differences in achievement was due to the relative difficulty to engage boys in reading, and that there were some literacy issues with boys. One of the English teachers commented that the students in their classes with poor literacy skills tended to be boys. Poor literacy skills came up as a reason from four of the participants when they explained why boys achieved at a lower level than girls. They thought that boys’ lower literacy levels impacted their ability to read questions and respond in meaningful ways. This is supported in the literature where it was suggested that many boys see literacy as not being of value (Alloway & Gilbert, 1997), and that a literacy gap impairs expectancy for success in written tasks (Reschly, 2010).

Another reason given by three of the participants for why girls achieve at a higher level was that school is more conducive to females’ preferred learning styles. They said that girls were more able than boys to cope with sedentary, structured activities. The boys, they claimed, require more active activities which schools tend not to provide. The three respondents thought that in the case study school, classroom-based, sedentary learning environments were the norm, and that this is better suited to girls.

All of the participants thought that meaningful relationships with important adults were helpful to the achievements of both boys and girls. They all said that consistency and stability at home allowed students to concentrate more on their studies than on home pressures, and that this promoted academic achievement. The participants said that if parents were involved and valued education, then their children would take their learning more seriously than others. This is consistent with Jeynes (2007) view that parental involvement raises children’s outcomes.

Additionally, the teachers all mentioned that students achieved at a higher level when their teacher was genuinely interested in them. This seems to be consistent with the finding in the literature that students perform at a higher academic level with positive relationships (Stewart, 2008). Two of the teachers felt that positive teacher-student relationships were particularly helpful in promoting the achievements of the boys in their classrooms; this is a view consistent with the work of Hattie (2008) and of Smith and Wilhelm (2002).
Teacher Perceptions of Boys' and Girls' Levels of Conscientiousness

All of the participants thought that there was a gender difference in students’ levels of conscientiousness. They all stated that girls were more conscientious than boys in their academic endeavours. A prevalent, common theme among the participants was that this gender difference in conscientiousness was reliant on age. The participants thought that at the lower levels of high school, girls were much more conscientious than boys, and they provided a range of reasons. The most common reason given was that girls of this age are more mature than boys of a similar age, and this meant that they were able to approach their studies more seriously. Pekkarinen (2008) similarly argued that boys of this age group were less mature and therefore less able to focus on their work. In agreement with the findings of Freudenthaler et al. (2008), another common reason given was that younger girls seem to be more understanding of the value of learning. An English teacher mentioned that boys were likely to give up on classroom activities, citing reasons like “it seems like too much work” and “it is just too difficult”; this suggests that boys have a lower expectancy for success than girls do.

However, all but one of the participants thought that there was no discernible gender gap in conscientiousness in senior high school, focusing on Years 11 to 12 in particular. It is not that girls’ conscientiousness lessened in these years, but it was that boys raised their levels of conscientiousness. A reason given was that boys had matured to a point that enabled them to persevere. Another reason given was that at this age “the rubber hits the road”, because what happens in the VCE may dictate boys’ future career directions; this suggests that boys are more aware of the utility value of their schooling at this later stage.

Five of the participants commented that the school structure, in particular the sedentary nature of classrooms and teacher driven instruction, allowed girls to be more conscientious than boys. They felt that girls were more able to focus under these conditions, whereas boys were unable to maintain their concentration. These participants felt that this led to many boys becoming frustrated with their school work, and for some to avoid school work altogether.

All but one of the participants said that student engagement led to increased conscientiousness. They thought that particular types of activities engaged boys, and that if boys were not interested then they would not engage, and sometimes withdraw from, classroom activities; a view consistent with claims made by Freudenthaler et al. (2008). Three of the participants suggested that boys were interested in and would engage in lessons of a kinaesthetic nature, rather than desk-bound activities.

Participants felt that if peer groups played a role then it was the peer groups of males who had a negative impact on boys. One participant noted that boys held that it was undesirable to be seen by peers as “trying too hard” at school, thereby leading to conscientiousness being viewed as a social negative. However, the same participant noted that girls’ peer groups encouraged conscientiousness as a “good thing”. These views concur with Epstein et al. (1998), who suggested that boys can be perceived negatively if they engage with academic work.

The Relationship between Achievement and Conscientiousness

All of the participants said that conscientious students achieved at a higher level than other students of similar academic ability. They were careful to add that this did not mean that all conscientious students achieved at the highest levels in the class, but that they outperform students who are equally capable but not conscientious.
Conclusions

There were two key aims to this study:

- To establish whether teachers perceived gender differences in students’ achievement and conscientiousness at the case study school.
- To ascertain the reasons behind teachers perceived gender differences in achievement and conscientiousness.

The teachers participating in this study did perceive gender differences in the achievements of girls and boys at the case study school. As described earlier, there are gender differences in achievement in Victorian data from the 2013 Year 9 NAPLAN testing results, with girls outperforming boys in the four literacy-related tests and boys scoring higher than girls in numeracy, and gender differences favouring girls in ATAR scores.

The non-mathematics teachers who participated in this study seemed to be decisive in their views that girls achieve at a higher level than boys. However, the opinions of the mathematics teachers were divided, with one teacher saying that girls achieved at a higher level, one saying that boys achieved at a higher level and another saying that there was no real difference. Overall, the views of the teachers suggested that there is generally an achievement gap favouring girls, particularly in subjects that are more humanities based. The teachers of non-mathematical subjects thought that the lower literacy standards of boys compared to girls contributed to boys’ lower expectancies for success and therefore lower achievement in their subjects. These are consistent with EVT, in particular, the gender differences in expectancies suggested by Eccles (1985).

The participants suggested that the structure of schooling was more conducive to girls’ learning and that this could be a reason behind the discrepancy in boys’ and girls’ achievements. More general reasons were given for heightened academic achievement. These included parents who were interested in their child’s learning and provided a stable home, and teachers who are interested in their students. Teachers who were interested in their male students was particularly helpful for the boys’ academic achievement.

With respect to students’ levels of conscientiousness, the teachers’ perceptions also revealed gender differences. As noted earlier, there is research evidence that girls are more conscientious than boys at school (Freudenthaler et al., 2008), and that the social construction of masculinity impacts on the conscientiousness of boys (Epstein et al., 1998). The teachers in the present study perceived girls to be decidedly more conscientious than boys in the early years of high school (Years 7 to 9). However, they thought that in the later years of high school, the gender gap in conscientiousness lessens to the point where there is no longer a clearly discernible gender gap. The teachers thought that this lessening of the gap was because boys had matured, and that at the later stages of schooling, boys are more able to recognise the value of schooling, in particular the utility value, on their future lives.

The participants gave other reasons behind their perceptions of lower levels of conscientiousness among boys than among girls. Some of the participants felt that the peer groups of boys can have a negative impact on boys’ conscientiousness, consistent with previous research evidence that boys are not as engaged as girls in learning (Lam et al., 2012). Many said that the structure of the learning environment in the case study school’s classrooms was more conducive to girls’ learning, thus enabling them to be more engaged than boys in the learning process. The participants felt that engagement led to heightened conscientiousness which, in turn, led to greater academic achievement, thus explaining girls’ higher achievements compared to boys’. The relationships between engagement, conscientiousness, and achievement found in this study are consistent with EVT (Eccles et al., 1983; Magidson et al., 2014). However, participants were careful to clarify that conscientious students did not always achieve at the highest levels, but that they were able to outperform other students with similar capabilities but who were not as conscientious.
**Implications of the Findings**

The findings of this study suggest that teachers in the case study school perceived a gender difference in students’ achievement and conscientiousness. Teachers of the humanities were unanimous in their views that the gap in achievement was in favour of girls in subjects based on written expression. Therefore, literacy and written skills could be considered an area in need of improvement for boys. This could be encouraged by helping boys’ understand that literacy is not a feminine pursuit and that literary skills are important for all people, including themselves.

The conscientiousness gap favouring girls was perceived to be most apparent in the earlier years of high school. Addressing boys’ poorer levels of conscientiousness could be an area of focus for teachers and school leaders who have the power to shape and change school culture. Teachers and school leaders could aid boys’ conscientiousness by promoting classroom activities that are more active and therefore more engaging for boys. Additionally, teachers and school leaders could address negative peer group influences for boys by helping to develop constructive male peer groups who celebrate conscientiousness as a positive trait.

**Limitations of the Study and Directions for Future Research**

The data in this study were gathered from the teaching staff of only one co-educational high school, therefore the findings cannot be generalised beyond this school. No data were gathered from other stakeholders in the educational enterprise of the school such as parents, the principal, or the students themselves, therefore further narrowing the scope of the results to the perspectives of the teachers only.

The reasons behind the identified gender difference favouring girls in students’ levels of conscientiousness in the lower years of high school are worthy of further research. Teachers’ perspectives are one thing, but the views of the children themselves would add much in understanding why this might occur. Further research should be conducted into whether the explanations put forward are consistent with students’ and parents’ views on conscientiousness. Many of the findings from this study were consistent with previous research and suggest that many boys’ lower literacy levels are hampering their academic achievement. This deserves research attention to clarify how boys’ literacy levels impact on their achievements in general, and on their levels of conscientiousness for learning.

**Final Words**

Maximising students’ opportunities to engage in their learning and maintain motivation in learning, and the provision of conducive learning environments enabling students to attain their educational potential are among the main goals of schooling. Findings such as those reported here indicate that there is still have some way to go to attain these goals.
References


