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TEACHERS' ATTITUDES TOWARDS THE GIFTED: THE IMPORTANCE OF  
PROFESSIONAL DEVELOPMENT AND SCHOOL CULTURE

Abstract

Given that teachers have one of the most significant influences on the educational development of gifted students, reports of negative attitudes and beliefs in popular myths about giftedness are cause for concern. It is important to understand teachers' attitudes and beliefs to implement effective training and educational practices to improve education for gifted students. This study explored the attitudes of Australian primary school teachers (N = 126) towards intellectually gifted children and their education at eight schools. These schools could be categorised into four different classifications in regards to their involvement in gifted education. Key findings include significant associations between teachers' attitudes and their school classifications ( $p < .001$ ), and their participation in gifted and talented education in-service training ( $p < .001$ ). Findings from this study suggest that further teacher training and school-wide involvement in gifted education may assist in improving attitudes towards intellectually gifted children and their education.

# TEACHERS' ATTITUDES TOWARDS THE GIFTED: THE IMPORTANCE OF PROFESSIONAL DEVELOPMENT AND SCHOOL CULTURE

## Introduction

According to Gagné (2003, 2009), whose model of giftedness and talent is widely used by state and territory government education departments around Australia, giftedness is a natural ability that requires the appropriate environment and supporting conditions to develop fully into a talent. Out of concern for equity, students with special needs due to learning difficulties or disabilities are provided with specialist educational provisions to support their development. Although gifted students are another group with special needs, equity is viewed as conflicting with excellence, and so the special educational needs of those who possess gifts and talents are often ignored (Gallagher, 2003; VanTassel-Baska, 1997).

Society's relationship with giftedness, talent and gifted education has been described as 'love-hate' (Colangelo & Davis, 2003; Davis & Rimm, 2004; Gallagher, 1997). Gifted people who have succeeded against all odds after developing from a modest background are often admired. However, the emphasis on egalitarianism has led to conflict about balancing support for individual gifts and talents with minimisation of individual differences (Colangelo & Davis, 2003; Davis & Rimm, 2004). Researchers have also referred to the pendulum that swings between excellence and equity; between encouraging gifted students to reach their full potential, and assisting students in other at-risk groups to meet equal minimum standards (Clark, 2002; Colangelo & Davis, 2003; Davis & Rimm, 2004; Gallagher, 2003; VanTassel-Baska, 1997). Although Australia labelled itself as the 'Clever Country', a national review of gifted education in Australia revealed that "a degree of apathy and opposition to gifted education exists within the [teaching] profession" (Watters & Diezmann, 2001, p. 29), and anti-intellectual attitudes are a substantial barrier for gifted

children receiving adequate educational provisions (Gross & Sleaf, 2001). Attitudes affect perceptions, which often influence behaviour (Bohner & Wänke, 2002). Therefore it follows that negative attitudes about intellectual precocity affect how gifted children and their education are perceived, and therefore how teachers may behave towards this group of students.

The study presented here investigated teachers' attitudes towards intellectually gifted children and their education. This paper begins with an overview of the Australian context in which this study was conducted, and a review of the importance of attitudes for education and the role of training in changing attitudes. It will then present the method and findings of a study of 126 primary school teachers. The results are presented in relation to two research questions: (a) *Do teachers in schools with varied levels of involvement in gifted and talented education have different attitudes towards intellectually gifted children and their education?* and (b) *Do teachers with varied profiles have different attitudes towards intellectually gifted children and their education?* Finally, there is a discussion of the findings in light of other national and international studies, and implications for teacher training and school culture. It was thought that there would be limited support for gifted education in general, and negative attitudes towards those provisions that are most contentious in Australia (i.e., ability grouping and acceleration). However, it was anticipated that teachers would be more supportive if they had received gifted education training and/or who were in a school culture that prioritised gifted education.

## Background

### *The Australian Context*

A social justice perspective in Australian schools has targeted interventions for students at the lower end of the academic spectrum, focusing primarily on improving literacy

and numeracy levels. Taking numeracy as an example, this focus on lower-achievers contributed to an increase in Australian students reaching the low and intermediate international benchmarks for mathematics from 1995 to 2003 (an increase from 86% to 88%, and from 61% to 64%, respectively), which puts Australia about equal with international averages (Mullis, Martin, Gonzalez, & Chrostowski, 2004). However, from 1995 to 2003, there was a decrease in students achieving the high and advanced international benchmarks (a decrease from 27% to 26%, and from 6% to 5%, respectively) (Mullis et al., 2004). Moreover, the 2003 international average of students achieving the high international mathematics benchmark was 36%, and for the advanced international benchmark it was 10% (Mullis et al., 2004). This shows that Australia is well below the average in its more capable students achieving highly in mathematics, putting Australia behind the United States of America and various countries in Asia and Europe (Mullis et al., 2004). While it is important to assist students who demonstrate difficulties in their learning, this should not lead to a neglect of high achieving and gifted students.

There has also been high political rhetoric in Australia about fostering knowledge and creativity for the 'knowledge economy'. While there have been major economic developments in industry, there is limited translation from policy to practice in education. In order to fuel Australia's competitiveness in the globalised economy, we need to nurture our 'best and brightest' students to become future leaders in the workforce. There is an increasing recognition of this in Australia, for example, through building selective academic schools to bring the 'like minds' of gifted students together. Providing these educational interventions requires a focus on the quality of teaching for gifted students. One aspect of teaching is teachers' understandings and attitudes. To successfully implement gifted education policies and practices, it is important to be aware of teachers' beliefs, alerting schools to possible constraints they may face in implementation.

### *Importance of Attitudes for Gifted Education Programming*

The attitudes of teachers towards gifted students are a significant consideration when developing gifted education programs (Davis & Rimm, 2004). Lack of knowledge and understanding about giftedness is proposed to be largely responsible for the mistaken beliefs held by teachers (Clark, 2002; Collins, 2001; Gross, 1994). A significant component of this is teachers' lack of knowledge of the research findings about educational provisions for gifted students and the effects of these on students' academic and social-emotional development (Gross, 1993, 1994; Gallagher, 1996). Davis and Rimm (2004) recommended that the first question to be asked when devising a gifted program should be, "What is our attitude toward gifted children?" (p. 55). Knowledge of attitudes is important for a successful program. In particular, schools should be explicit about whether their teachers are interested in, and supportive of, gifted education. It is useful for schools to know why they are providing a particular program, what they are aiming to accomplish, and whether they are willing to be responsible and accountable for the plan of action (Davis & Rimm, 2004).

The rationale for studying attitudes of teachers towards intellectually gifted children and their education is based on research findings that attitudes are important to the social psychology of people at many levels (Bohner & Wänke, 2002; Eagly & Chaiken, 1993). How people think and feel about, and respond to, various stimuli is largely determined by attitudes. Attitudes are related to behaviour at the individual level (e.g., they influence personal thinking and behaviour), at the interpersonal level (e.g., one's behaviours can be influenced by others' attitudes, and we can change people's behaviour by changing their attitudes), and at the societal level (e.g., discriminatory behaviour can be caused by negative group attitudes or prejudices) (Bohner & Wänke, 2002). The relationship between attitudes and behaviours is complex and not always consistent. However, it is generally agreed that attitudes are one

variable that influence behaviour or behavioural intents, perceptions, and judgments (Bohner & Wänke, 2002; Eagley & Chaiken, 1993; Oppenheim, 1992).

Attitude formation and change is multifaceted, influenced by a variety of personal and environmental factors (Bohner & Wänke, 2002). Attitudes are seldom formed after careful consideration of all information in order to develop a rational, objective and impartial conclusion (Oppenheim, 1992). They are often emotional states that are developed or adapted by adopting or reacting to others' attitudes (Oppenheim, 1992). This suggests that teachers in schools may adopt the attitudes of their colleagues. It also denotes that presentation of gifted education research findings to teachers may not always improve attitudes; the reactions of other school staff also play a role.

Attitudes also influence how information is processed through the 'attitudinal selectivity effect' (Bohner & Wänke, 2002). When presented with information, a person is most likely to accept information that supports their current attitudes, and reject information that challenges or may disconfirm these beliefs (Bohner & Wänke, 2002; Oppenheim, 1992). The ability to influence others' attitudes will depend on the depth of the attitudes – whether they are superficial or are fundamental to a person's core philosophy and personality (Oppenheim, 1992). In attempting to modify a person's attitudes, it is also important to recognise that attitudes do not exist in isolation. They are interrelated and if one of the deeper, underlying attitudes that is fundamental to one's core personality is involved, the attitude will be more difficult to change (Oppenheim, 1992). This has implications for the effectiveness of training to improve attitudes towards giftedness in that training must address underlying, core beliefs that relate to beliefs about the gifted (e.g., beliefs about intelligence, student differences, and the purpose of education).

### *Role of Training in Changing Attitudes*

There is evidence from a number of empirical studies to show that pre-service, in-service and postgraduate gifted education training results in greater understandings of giftedness and gifted education, assisting teachers to evaluate their own understandings and dispel myths (e.g., Cashion & Sullenger, 2000; Goodnough, 2001; Gross, 1994; Hansen & Feldhusen, 1994; Lummis, 1999; Meyland, 2001). However, teachers with negative attitudes towards gifted children and their education may be less likely to become aware of their ignorance and prejudice. These teachers may place priority on the misconceptions and myths that support their prejudice, rather than recognising a need to improve their understanding (Bohner & Wänke, 2002). They may also be less likely to volunteer for, and participate in, gifted and talented education training. While studies of teacher attitudes do not claim that positive attitudes cause good practice, they emphasise the close relationship between teacher training, positive attitudes, and the provision of an appropriate education for gifted students.

### Method

This quantitative survey research investigated the attitudes of teachers in primary schools towards intellectually gifted children and their education.

#### *Participants*

Participants were teachers from four classifications of government primary schools in Australia:

- Classification 1 (C1): 31 teachers from two schools known as focus schools for gifted and talented education, which received funding and support for programs and professional development in gifted and talented education, and which each had an ‘enrichment coordinator’;

- Classification 2 (C2): 22 teachers from two schools that networked with one of the C1 schools to receive professional development and implementation assistance in gifted and talented education;
- Classification 3 (C3): 40 teachers from two schools that were also linked to one of the C1 schools, but whose relationship was more on a needs-based arrangement (e.g., when specific questions or problems arose at the C3 school), and was less structured and frequent than that experienced by C2 schools; and
- Classification 4 (C4): 33 teachers from two schools that had no school-wide approach to gifted and talented education and no links with schools in Classifications 1 to 3.

The overall survey response rate was approximately 50%, ranging from a low of 21% to a high of 64%. For all 126 teachers, valid responses were received.

### *Instruments*

Gagné and Nadeau's opinionnaire, *Opinions about the gifted and their education* (Gagné, 1991), was distributed to teachers. It contains 34 items that are categorised into six factors for scoring. These opinionnaire factors are:

Factor A. *Needs and support (recognising needs of gifted children and support for special services);*

Factor B. *Resistance to objections (presenting objections based on ideologies and priorities);*

Factor C. *Social value (appreciating the social usefulness of gifted persons in society);*

Factor D. *Rejection (recognising the isolation of gifted persons by others in the immediate environment);*

Factor E. *Ability grouping (attitudes towards special ability groups and "gifted classes");*

Factor F. *School acceleration (attitudes towards accelerative enrichment)* (Gagné, 1991).

A teacher profile form was attached to each opinionnaire. This form collected details of participants' gender, age, years of teaching experience, current teaching position, qualifications, and any training they had received in gifted and talented education. Information from this survey contributed to answering a research question about whether teachers with varying attitudes differed in their profiles.

### *Data Analysis*

The study involved descriptive and inferential quantitative data analysis procedures. The opinionnaire responses were recorded according to a five point Likert scale. Negatively-worded items were inverted so that for all items, the highest possible score was 5 and the lowest was 1. Inverting negatively-worded items enabled further analyses and comparison of mean scores. This study also analysed correlations between attitude scores and school classifications/teacher profile variables using Kruskal-Wallis tests (for non-parametric data) and Spearman's correlation coefficient (for parametric data).

### Results

Results are presented according to the two research questions. The results presented in this article use mean scores. Scores above 4.00 indicated a very positive attitude; below 2.00 signified a very negative attitude (Gagné, 1991). Means between 2.75 and 3.25 suggested ambivalence (Gagné, 1991). Gagné's (1991) interpretations of mean scores were used as a qualitative guide for analysis.

*Attitudes of Teachers in Schools with Varied Levels of Involvement in Gifted and Talented Education*

This section provides an overall summary of teachers' responses to the opinionnaire, *Opinions about the gifted and their education* (Gagné, 1991), by their school classification. Table 1 presents teachers' overall mean scores, revealing that C1 school teachers held the most positive attitudes towards gifted children and their education, while C3 school teachers held the least positive attitudes. Some key findings are then presented for each factor of the opinionnaire.

Table 1

*Teachers' Combined Mean Attitude Scores, by School Classification*

| <b>School Classification</b> | <b>Mean</b> |
|------------------------------|-------------|
| Classification 1             | 3.46        |
| Classification 2             | 3.18        |
| Classification 3             | 2.92        |
| Classification 4             | 3.17        |

Figure 1 is an illustrative summary of mean score results in each opinionnaire factor for the school classifications. These data show that the most favourable attitudes in all factors were reported by teachers at C1 schools. Teachers at C2 schools reported similar attitudes to those at C1 schools regarding recognition of the rejection and isolation gifted people face. C3 school teachers reported the most ambivalent attitudes towards gifted children and their education in all sections, with the exception of the *Social value* factor (Factor C). In this factor, their attitudes were marginally more positive than teachers at C2 schools. C4 school teachers reported more positive attitudes than teachers at C2 and C3 schools for the *Needs and support*, *Resistance to objections*, *Social value*, and *School acceleration* factors.

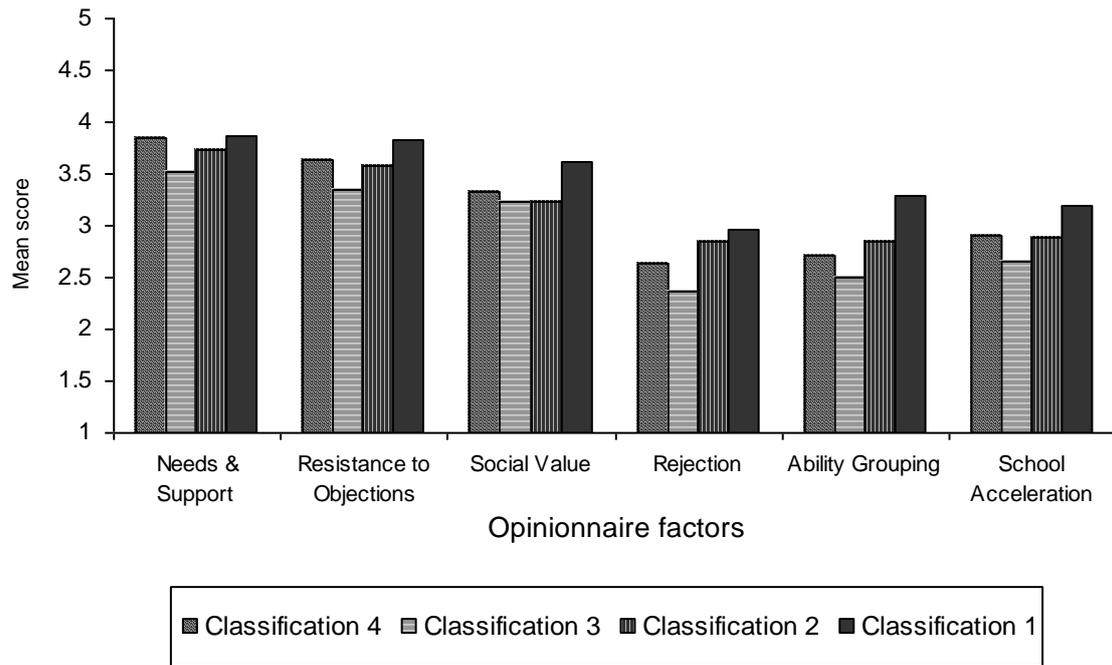


Figure 1. Opinionnaire factor mean scores, by school classification.

Kruskal-Wallis tests were used to test whether significant associations existed between the variables of school classification and teachers' attitudes. There was a significant association for five of the six opinionnaire factors. The results of the other factor were also approaching significance. Table 2 presents the results of these association tests for comparison, listing the school classifications in order from most positive to least positive mean factor scores. In all factors, the associations indicated that C1 teachers had more positive attitudes towards gifted children and their education, and C3 teachers the least positive. Overall, when averaging the scores of all six factors, the association between school classification and attitudes was statistically significant at the .001 level.

Table 2

*Associations between School Classification and Opinionnaire Factors*

| <b>Opinionnaire Factor</b>               | <b>School Classifications' Mean Ranks</b> |       | <b>Significance</b> |
|--|---|-------|---------------------|
| Needs and support                        | C1  | 72.16 | p < .05             |
|  | C4  | 68.15 |                     |
|  | C2  | 61.81 |                     |
|  | C3  | 48.39 |                     |
| Resistance to objections                 | C1  | 71.72 | p < .05             |
|  | C4  | 66.63 |                     |
|  | C2  | 62.41 |                     |
|  | C3  | 49.05 |                     |
| Social value                             | C1  | 74.92 | p = .05             |
|  | C4  | 56.97 |                     |
|  | C2  | 54.43 |                     |
|  | C3  | 53.78 |                     |
| Rejection                                | C1  | 74.47 | p < .05             |
|  | C2  | 69.55 |                     |
|  | C4  | 61.17 |                     |
|  | C3  | 49.48 |                     |
| Ability grouping                         | C1  | 83.25 | p = .001            |
|  | C2  | 65.89 |                     |
|  | C4  | 57.17 |                     |
|  | C3  | 49.34 |                     |
| School acceleration                      | C1  | 73.70 | Non-significant     |
|  | C2  | 64.82 |                     |
|  | C4  | 62.34 |                     |
|  | C3  | 50.46 |                     |
| Overall (average across all six factors) | C1  | 77.02 | p < .001            |
|  | C2  | 62.30 |                     |
|  | C4  | 55.37 |                     |
|  | C3  | 38.18 |                     |

*Attitudes of Teachers with Varied Profiles*

A teacher profile form was attached to the opinionnaire distributed to teachers. This form sought information about teachers' gender, age, number of years teaching, teaching position, qualifications, postgraduate study, gifted education pre-service training, and gifted education in-service training.

Non-parametric bivariate correlation tests were used to measure the relationship between demographic characteristics that used an ordinal scale – age (grouped by decade) and number of years teaching (by groups of 5 years) – and their attitudes towards gifted children and their education. No statistically significant results were found.

Kruskal-Wallis tests were used to examine the association between attitudes and the remaining independent nominal scale variables: gender, teaching position (classroom/specialist teacher; permanent/contract teacher), qualifications (Certificate, Diploma, Bachelor Degree, Masters Degree, Doctoral Degree, other postgraduate degree), gifted education pre-service training, gifted education postgraduate study, and gifted education in-service training. The variables of gender, age, number of years teaching, teaching position, and qualifications produced no significant associations with attitudes towards intellectually gifted children and their education. A positive correlation was found for teachers who had completed pre-service training, postgraduate study or in-service in gifted education, but for pre-service training and postgraduate study the sample was too limited to show practical significance. In-service training produced the most significant associations with teachers' attitudes towards intellectually gifted children and their education. When averaging the scores of all six factors, the overall association was significant beyond the .001 level. In-service training was the only teacher profile variable that produced a significant association overall.

Frequencies of teachers who had received training in gifted and talented education are presented in Table 3. Significant relationships between training and gifted and talented education are presented in Table 4.

Table 3

*Participants' gifted and talented education training*

| <b>Training</b>  | <b>Category</b>      | <b>Frequency</b> | <b>Percentage</b> |
|--|----------------------|------------------|-------------------|
| Teachers with training in gifted and talented education                          | Pre-service training | 14               | 11%               |
|  | Postgraduate study   | 4                | 3%                |
|  | In-service training  | 55               | 44%               |
|  | No training          | 58               | 46%               |
| Teachers with training in gifted and talented education by school classification | C1                   | 24               | 77%               |
|  | C2                   | 11               | 50%               |
|  | C3                   | 17               | 43%               |
|  | C4                   | 15               | 45%               |

Table 4

*Associations between Teacher Demographic Variables and Opinionnaire Factors*

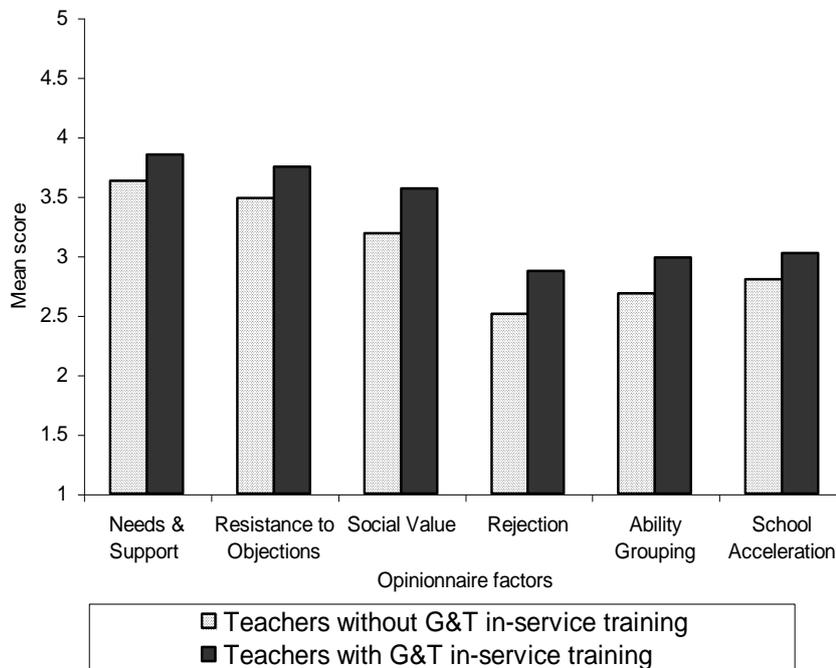
| <b>Opinionnaire Factors<sup>a</sup></b> | <b>Gifted and talented training</b> |                     |                   |
|---|-------------------------------------|---------------------|-------------------|
|   | <b>Pre-service</b>                  | <b>Postgraduate</b> | <b>In-service</b> |
| A: Needs and support                    | N-S                                 | N-S                 | p < .05           |
| B: Resistance to objections             | p < .05                             | N-S                 | p < .05           |
| C: Social value                         | N-S                                 | p < .05             | p < .001          |
| D: Rejection                            | N-S                                 | N-S                 | p < .02           |
| E: Ability grouping                     | N-S                                 | N-S                 | N-S               |
| F: School acceleration                  | N-S                                 | N-S                 | N-S               |
| Overall (across all 6 factors)          | N-S                                 | N-S                 | p < .001          |

*Note.* N-S = Non-significant associations.

<sup>a</sup>Opinionnaire Factors = Gagné and Nadeau's opinionnaire factors (Gagné, 1991).

In-service training was significantly associated with four of six factors of the opinionnaire, as shown in Table 4. For each of these four factors, teachers who had received in-service training in gifted and talented education were more likely to have favourable attitudes than teachers who had not received such training. The comparison of opinionnaire

mean scores for teachers with and without gifted and talented education in-service training is presented in Figure 2.



*Figure 2.* Opinionnaire factor mean scores for teachers with and without in-service training in gifted and talented education.

## Discussion

### *Teachers' Attitudes towards Gifted Children and their Education*

In Australia, there is reportedly considerable opposition to providing special educational provisions for gifted children (Collins, 2001). Results from this study, however, demonstrated that many teachers were supportive of the need for gifted education (see opinionnaire results for Factor A). A number of other Australian (e.g., Burgess, 1999; Gross, 1994; Larsson, 1990; Smith & Chan, 1996, 1998) and international (e.g., Gagné, 1983; Larsson, 1990; McCoach & Siegle, 2007; Tallent-Runnels, Tirri, & Adams, 2000; Tirri,

1997) empirical studies have similarly found support from teachers for gifted education provisions.

In this study, teachers largely resisted common objections cited in opposition to gifted education, such as objections of elitism or gifted children not needing special support (see opinionnaire results for Factor B). The largely ambivalent attitudes found in this study do not provide strong support for, nor strongly reject, concerns of elitism or reports of Australia's anti-intellectual attitude (e.g., Collins, 2001; Gross, 1993, 1994). However, it would be interesting to compare the level of support for provisions for children who are intellectually gifted versus those who are gifted in other areas such as sport or music. Although it was beyond the scope of this study, it is anticipated that attitudes would be more favourable towards the latter group.

Despite reports to the contrary in Australia (e.g., Gross, 1993), almost all teachers in this study valued the usefulness of gifted people for our society (see opinionnaire results for Factor C). However, three quarters of the teachers did not appear to agree with arguments by researchers (e.g., Davis & Rimm, 2004) that today's gifted students will be tomorrow's leaders who enhance society in a range of fields. It would be interesting to investigate whether this attitude was related to a narrow perception of the intellectually gifted being a small minority of the population (e.g., Terman's [1926] cut-off of the top 1%). Such a view would imply that gifted people are too few to become the majority of society's leaders and that gifted education provisions are not a cultivator of social capital.

Attitudes about the social experiences of gifted students were the least positive of all factors in the opinionnaire (see opinionnaire results for Factor D). This finding suggests a lack of teachers' awareness about the personal experiences faced by gifted children, in particular, about the isolation and rejection gifted children often face from their age peers. This result, and similar findings in previous studies (e.g., Burgess, 1999; Meyland, 2001),

suggest that teachers tend to view gifted students as those who are popular, friendly, well-behaved and conforming (Davis & Rimm, 2004). In contrast, children who have been identified as gifted commonly report feelings of having difficulty making same-age friends and of being estranged, different, alone, teased and rejected (Clark, 2002; Davis & Rimm, 2004; Gallagher & Gallagher, 1994; Winner, 1996).

Although gifted programs were recognised as important by participants, the two main gifted education provisions — ability grouping and acceleration — received limited support, indicating a combination of ambivalent and negative attitudes by many teachers (see opinionnaire results for Factors E and F). The main concerns about these provisions were the academic and social effects on both gifted and non-gifted students. Approximately two-thirds of teachers believed that ability grouping increases the consequences of labelling. It was also commonly thought that gifted children would be intellectual stimulants for non-gifted students if left in regular classes. However, previous research found that average or lower-achieving students model themselves on peers of similar or slightly higher ability, not the gifted (Schunk, 1987). In terms of acceleration, almost half of the teachers thought gifted children who are accelerated have difficulties with social adjustment. However, studies of accelerated gifted students have shown they are often better adjusted than those not accelerated (Braggett, 1994; Gross, 1993). Ability grouping and acceleration are the most controversial, and least used, special educational provisions for gifted students in Australia. This is despite ability grouping and acceleration being supported by a strong empirical research base (e.g., Gallagher, 1996; Kulik & Kulik, 1992; Reis, 1992; Shields, 2002; Southern, Jones, & Stanley, 1993; Swiatek & Benbow, 1991; VanTassel-Baska, 1992).

The lack of support for ability grouping and acceleration found in this study, however, was not surprising. This viewpoint takes into consideration the reports in the literature and the fact that many Australian government education departments advocate the principle of

inclusion of all students in the regular classroom, wherever possible. Such an approach may have resulted in acceleration and ability grouping not being given priority in gifted education in-service training, meaning teachers may be unsure of how to effectively implement such provisions. As the literature suggests, lack of knowledge and understanding is believed to be a major cause of mistaken beliefs and negative attitudes (Clark, 2002; Collins, 2001).

#### *The Effects of Professional Development and School Culture on Teachers' Attitudes*

This study's results showed both school classification and professional development (in the form of in-service training) had a significant overall association with attitudes. School classification was also significantly associated with five of the six opinionnaire factors; in-service training was significantly associated with four factors. Of the fifty-five teachers in this study who had received in-service training, C1 school teachers comprised 44%. As discussed earlier in the paper, there is evidence of the relationship between gifted education training and teacher attitudes (e.g., Cashion & Sullenger, 2000; Goodnough, 2001; Gross, 1994; Hansen & Feldhusen, 1994). Another influence on teachers' attitudes (van den Berg, 2002) and beliefs (Hamilton, 1993; van den Berg, 2002) is school culture or climate. The school culture influences teachers' sense of efficacy (Hoy & Woolfolk, 1993; Ruscoe & Whitford, 1991), which encompasses teachers' beliefs, attitudes and emotions (van den Berg, 2002). These influences, in turn, affect teachers' performance (e.g., Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), their adoption and implementation of school innovations (e.g., Ross, 1992; Smylie, 1988) (such as gifted education initiatives) and student achievement (e.g., Ross, 1992). A question to be explored in further research is whether in-service professional development or a school culture of gifted and talented education support and provision has the greatest effects on attitudes, or whether it is a combination of both elements.

Employment at a C1 school (where there is a focus on gifted and talented education) ensured teachers had substantial contact with gifted children and gifted education issues. The school leaders placed a priority on gifted education in these schools and had trained coordinators to facilitate implementation of gifted education provisions as the norm. Therefore, the association between attitudes and school classification may have been partly related to the 'mere exposure effect' (Bohner & Wänke, 2002). This theory would suggest that repeated exposure to stimuli related to giftedness, such as gifted children themselves and information about gifted education, can increase favourability towards the issue. Positive attitudes in C1 schools may also be explained, in part, by these teachers' "exposure to attitude-discrepant information" (Eagly & Chaiken, 1993, p. 473). This theory states that attitude change can occur when people with positive attitudes surround people with negative or ambivalent attitudes. Change occurs in people with negative/ambivalent attitudes, due to the dissonance that results from being in a group of people with diverging viewpoints; agreement reduces this dissonance (Eagly & Chaiken, 1993; Oskamp, 1991).

C2 schools also had a gifted and talented focus. They received professional assistance from a C1 school, with 41% of their teachers reporting in-service training experiences. However, these teachers composed only 16% of the total in-serviced teachers in the sample. Given the association between in-service training and attitudes, the limited number of in-serviced teachers may be connected to the overall attitude scores in C2 schools ( $M = 3.18$ ), which were similar to the mean score in C4 schools ( $M = 3.17$ ).

It was anticipated that teachers in C3 schools would have more positive attitudes than teachers in C4 schools, given that the former were part of a gifted and talented network. C3 schools were connected with the C1 schools, which were the leading schools in gifted education in that state (Imison, 2001). However, the more positive attitudes at C4 schools may be partly explained by a higher percentage of participating C4 teachers having received

gifted and talented education in-service training. It is also possible that the C4 schools in the sample were not typical of other mainstream schools. Although they didn't have school-wide policies, the two schools that participated may have agreed due to an existing interest in gifted education. Moreover, these results also elicit a question about the amount and effectiveness of gifted education training and support received in C3 schools.

The correlation between positive attitudes and teaching at a gifted education focus school (C1 school) may be an indicator of the success of developments in the field of gifted education. The main implications of this study for professional practice are in regard to teacher training. A number of other Australian and international studies have similarly found that teachers who had received a gifted education professional development program demonstrated more favourable attitudes towards gifted children and gifted education (e.g., Copenhaver & McIntyre, 1992; Geake & Gross, 2008; Gross, 1994; Johnsen, Haensly, Ryser, & Ford, 2002; McCoach & Siegle, 2007). In-service training that aims to increase teachers' confidence to support gifted students should be presented in conjunction with research findings that refute common myths and misconceptions (Collins, 2001). To identify key misconceptions and tailor programs to the specific group of teachers, a survey such as the one used in this study could be used prior to training.

### Conclusion

The classroom teacher significantly affects the development of gifted students (Clark, 2002). This notion is consistent with Gagné's (2003, 2009) *Differentiated Model of Giftedness and Talent*, emphasising the role of significant people in the growth of gifts into talents. Given the relationship between attitudes and behaviour, improving teachers' behaviour and pedagogy requires improving teachers' attitudes towards gifted children and their education. As gifted and talented education reforms and training permeate more schools to create a school culture that prioritises gifted education, teachers' attitudes, skills and ability

to recognise and meet the needs of gifted children should be further enhanced. Best practice in gifted education that enables gifted students to develop their full potential can benefit society as well as the individual.

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