
Young Gifted Girls and Boys: perspectives through the lens of gender

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ABSTRACT In contemporary society we have become highly dependent on a technological, scientific and mathematically literate population. There has been considerable debate for many years about the lack of talented people entering professions associated with these literacies and about the level of understanding of science and technology in the general community. Since perceptions of and interest in mathematics, science and technology begin in early childhood, teachers of very young children play an important role in fostering and supporting these interests. The research problem investigated in this article emerged when the researcher became aware that teachers in Brisbane, Australia nominated as many as five times more boys than girls for a mathematics and science enrichment programme for gifted young children. Hence, teachers' conceptions of what it means to have high ability in mathematics and science in early childhood appeared to be influenced by teacher beliefs about gender. Single in-depth interviews were conducted with 16 early childhood teachers who nominated children for the above mentioned enrichment programme. Based on interview data, a model of teachers' conceptions of giftedness was developed, comprising seven categories of description or ways that teachers see the phenomenon of giftedness in relation to young children. A latter interpretative analysis of this model found that teachers' conceptions of giftedness are indeed gendered and that each of the seven categories of giftedness guides teacher behaviours or actions that directly disadvantage girls. This article explores this latter analysis and concludes that gender is a significant influence on teachers' conceptions of giftedness in young children.

Introduction

In this article, a synthesis of major research findings of a recent study with 16 Australian early childhood teachers is reported. Teachers who had nominated a young child for gifted enrichment were asked to respond in single in-depth interviews to questions related to their particular understandings of high

ability or ‘giftedness’ in young children, and to relate these in a specific way to the child they had nominated. A set of seven conceptions of giftedness was derived from the data (Lee, 1999). Subsequent to conducting the analysis of teacher responses to the meanings of terms such as ‘gifted’ and ‘talented’, I investigated the means by which these conceptions might be understood through the ‘lens’ of gender. Hence, the focus of this article is to identify the gendered dimensions of early childhood teachers’ conceptions of giftedness. The article addresses each of the conceptions of giftedness reported in Table I and discusses these in light of a gender analysis.

Gender Dimensions of Teachers’ Conceptions of Giftedness

The rationale for the development of and elaboration of the categories outlined in Table I is the subject of another article (Lee, 1999) and is not reported here. However, in this article, each of these categories will be examined in detail from a gender perspective; I deconstruct these notions of giftedness and explore what each conception might mean for young boys and girls. In addition to being asked, ‘what does it mean to be gifted and talented?’ teachers were also asked to respond to the question, ‘what, if anything, distinguishes a gifted girl from a gifted boy?’ The analysis of teacher responses to this latter question provides the essence of the arguments advanced in this article.

Category	Description
Category I	A gifted and talented child is seen to possess innate / natural or ‘God-given’ ability
Category II	A gifted and talented child is seen to have potential
Category III	A gifted and talented child is seen to be rare
Category IV	A gifted and talented child is seen to exhibit idiosyncratic and/or noticeable behaviours in the school and classroom environment
Category V	A gifted and talented child is seen as motivated beyond teacher expectation
Category VI	A gifted and talented child is seen to display excellence in one or more areas
Category VII	A gifted and talented child is seen to exhibit asynchronous development in one or more non-academic areas

Table I. Categories of description derived from teachers’ responses to research interviews (Lee, 1999; 2000).

Giftedness as Innate Ability: what does it mean for young gifted girls and boys?

Teachers in this study held the view that gifted children possess innate, natural or ‘God-given’ ability. A subsequent gender analysis of teacher responses

highlights that many teachers think that this genetic predisposition to high ability is also influenced by gender. For example, many teachers in the study believed that gendered patterns in aptitudes and interests were evident in the children they knew. Typically, teachers saw boys as being *innately* more competent and interested in mathematics and science and girls in the arts and language. Some teachers implicated pressures from 'the community' in shaping these gendered abilities and interests, thus aligning themselves with a social constructionist view of gender (Connell, 1985). However, in the instances where teachers did adopt this stance, they did not implicate schools or teachers in the process of gender construction.

In effect, these findings show that some teachers understood that:

- giftedness tends to be genetically endowed;
- ability in mathematics and science tends to be an inherently male attribute; and
- ability in language and the arts tends to be an inherently female attribute.

According to the reported understandings of the teachers in this study, the implications of these findings are that:

- boys are more likely than girls to be identified by some teachers as gifted in mathematics and science;
- girls are more likely than boys to be identified by some teachers as gifted in language and the arts;
- should a boy or girl exhibit ability in a non-traditional area, some teachers would regard this as atypical; and
- in order for a child to be identified by some teachers as gifted in a non-traditional area they would need to break with convention and overcome the teacher's gendered perception of ability.

Giftedness as Potential: what does it mean for gifted girls and boys?

Teachers in this study believed that innate ability endowed an individual with the potential to excel. The notion of giftedness as potential has significant gender implications which may be understood in light of teachers' statements regarding the future scenarios of boys and girls. Teachers not only saw vastly different futures for boys and girls when asked, 'what future scenario do you see for a gifted boy/gifted girl?' but some teachers also had considerable difficulty identifying *any* future for the girls they knew. For boys, however, teachers described elaborate and detailed future scenarios that were overlaid with traditional expectations of the masculine stereotype, including careers involving risk, adventure, power, innovation and status. On the other hand, gifted girls' futures were predominantly described as being concerned with caring, nurturing roles. In other words, a feminine stereotype was superimposed on the career options teachers chose for girls.

It can be seen that the notion of potential is overlaid with expectations that differ for boys and girls. It is argued here and elsewhere in the literature that the very notion of potential is used as a mechanism to support boys as highly able despite their performance (Walkerdine, 1989; Siegle & Reis, 1995; Cohen, 1996), but not girls, who are seen to achieve success through sheer hard work (Walkerdine, 1989; Sadker & Sadker, 1994; Siegle & Reis, 1995; Cohen, 1996, 1998). Teacher expectations regarding aptitude, performance and the ultimate outcome of an individual's education are profoundly influenced by these gendered perceptions (Willis, 1989; Leder & Forgasz, 1996; Fennema, 1993; Cohen, 1998). In addition, these expectations act as agents for constructing behaviours, since the way teachers interact with students based on gendered assumptions about boys' and girls' ability affects student performance and outcomes in school (Willis, 1989; Fennema, 1993).

Some teachers in the study stated that if young gifted children did not realise their potential as an adult, they were not, in fact, gifted. This finding has significance for underachieving gifted children generally, but specifically for gifted girls, who are less likely than boys to be identified as gifted, and hence more likely to underachieve (Kerr, 1985, 1994; Silverman, 1986; Olshen & Matthews, 1987; Bell, 1989; Reis, 1990; Callahan et al, 1994; Freeman, 1996; Randall, 1997; Smutny, 1998). Such a view has the power to reinforce the gendered expectations of some teachers, who, upon seeing few eminent women in traditionally masculine fields such as physics and engineering, may rationalise that girls are in fact less suited to and less capable of achieving success in such areas. This would serve to confirm some teachers' views regarding innate sex-linked ability. Such a scenario has the potential to perpetuate the underachievement of girls with special ability in mathematics and science. The reverse, of course, could be said for boys achieving in non-traditional areas such as English and the arts. Thus, teachers' gendered conceptions of 'potential' will impact upon and modify boys' and girls' behaviours to the extent that students will make and remake gendered practices according to the set of socially constructed gender expectations to which they are subject (Connell, 1995). Hence, teachers may rationalise that there are few or no gifted girls on the basis that they do not show potential in the way boys do, or that they perform well due to sheer hard work rather than 'natural' potential and aptitude.

Giftedness as Rarity: what does it mean for gifted girls and boys?

Teachers in this study regarded gifted young children as a rare phenomenon. The very notion of rarity among these teachers is fraught with ambiguity, and criteria for what constituted 'rare' differed radically among teachers in this research. Most notably, however, these teachers held the implicit and explicit view that gifted girls are *rarer* than gifted boys. Of the 16 teachers interviewed, only three teachers chose to discuss more girls than boys when asked to describe a gifted and talented child they knew. Indeed, across the study,

teachers chose to discuss just over 40% more boys than girls in response to the question, ‘can you tell me about a particular young child you thought to be gifted and talented?’ Two male teachers, one with 10 years’ teaching experience and another with over 20 years’ experience, claimed that they had never taught a gifted girl.

That gifted girls are even rarer than gifted boys is implied in the very fact that teachers do not call them to mind as often as boys in their responses regarding gifted children. This arises, no doubt, from the fact that boys are consistently more noticeable to their teachers than girls (Spender, 1989; Yates, 1993; Cohen, 1996; Gilbert & Gilbert, 1998; Mahony, 1998). Noticeability of boys over girls has the effect of making gifted girls appear rarer than gifted boys. This is confirmed in the explicit references to the rarity of gifted girls as in the following interview extracts:

The boys come to mind, now see, that’s not very fair is it? Because there were probably girls. (Interview 2)

I can’t really say that I’ve ever noticed any gifted girls. (Interview 8)

The rarity question intersects closely with the notion of ‘noticeability’, which is addressed in the next section. However, it is important to consider the implications of the fact that teachers apply varying criteria to what constitutes rarity. Within the notion of rarity is the implied and explicit belief that gifted girls are rarer than gifted boys. Consequently, it can be seen that teacher expectations will have a profound effect on the identification of gifted young girls. This point is illustrated in interview 13, when the teacher (who claimed he had never taught a gifted girl in his 10-year career) stated that gifted girls would be difficult to identify because they would, by nature, be introverted and that:

unless you were aware of it, you wouldn’t even look for it, you’d say she’s just a very quiet kid, doesn’t cause any trouble ... I think you’d have to go out of your way’ [to identify a gifted girl]. (Interview 13)

This teacher’s expectation of gifted girls is shaped by the conception of rarity. This teacher believes that all gifted children are rare but that gifted girls, as a subset of this group, are even more rare and difficult to identify. Such an understanding may mean that the identification of gifted girls would be an effort for this teacher because a gifted girl would be so unusual and rare that ‘you wouldn’t even look for it’.

Again, teachers who see giftedness as rare actually construct a barrier to girls’ identification through applying masculine lenses to their conceptions of intelligence and giftedness. Thus, teachers see that, though rare, a considerable number of boys are gifted but that a gifted girl is even more rare, and possibly more ‘unnatural’ than a gifted boy. In some respects, this echoes the sentiment of the fictitious professor in Bram Stoker’s *Dracula*, who stated, ‘Ah, that wonderful Madam Mina! She has a man’s brain – a brain that a man should

have were he much gifted' (Stoker, cited in World Library, 1994, Scroll number 422:682).

**Giftedness as Noticeability:
what does it mean for gifted girls and boys?**

The most prolific number of utterances in a single category in this study belongs to the category of 'noticeability'. Teachers in this study saw gifted children as noticeable in a range of ways, as they stood out from their peers by:

- adapting quickly and effectively to change in the environment;
- shaping the environment to suit them better in ways that were successful;
- selecting alternative environments by isolating themselves and withdrawing from peers and the teacher; or
- rebelling in class by verbal and/or physical means.

It is apparent from the data analysis that the adapting option is one in which girls have been socialised very well, as according to the teachers in this study, girls tend to be noticeable by their 'pleasing the teacher' behaviours. This learned compliance is shaped by the feminine stereotype of the 'good' girl (Kerr, 1985, 1994; Lerner, 1986; Olshen & Matthews, 1987; Yates, 1993; Smutny, 1998). Boys, on the other hand, are seen to be 'innately' less able to adapt and therefore more noticeable in the classroom (Spender, 1989; Yates, 1993; Cohen, 1996; Gilbert & Gilbert, 1998; Mahony, 1998). An exemplary quotation from the transcripts highlights this belief:

Girls are just great in primary schools, particularly in lower primary, they love doing jobs, they love helping, they love tutoring other students, they love being the teacher, they love playing that game that they play at home with their dolls you know? So they're very socialised towards an institution like this ... I don't think schools are necessarily for boys myself, I really don't think that sitting down, listening and reading and writing and that are boy things ... the things we do here are the things the vast majority of boys don't do well. (Interview 13)

Considerably fewer boys described in this study were seen to be highly adaptive in the way that girls were. In most instances, boys were seen as shaping their environment by demanding teacher attention and, for example, calling out 'this is boring', in a number of instances. In extreme cases, boys were seen to select alternatives by opting out of class activities altogether. Boys were also seen to rebel by using verbal and/or physical abuse of the teacher and their peers. There were no instances reported by teachers in which girls rebelled against or resisted the classroom programme or environment, highlighting the fact that girls had learned, in early childhood, to take up a feminine gender stereotype of compliance and had begun to make and remake the gendered practice of feminine compliance (Connell, 1995). Only one instance was reported in the study where a gifted girl actively resisted this

feminine stereotype, echoing the feminist post-structuralist notion of resistance to gender socialisation (Wearing, 1996). In this instance, the girl was labelled a tomboy. However, the overwhelming majority of girls discussed by teachers in this study were quietly compliant 'teacher pleasers'.

Clearly, a child who adapts successfully in a classroom environment will blend into the group much more easily and be less 'noticeable', than a child who is acting out and being noticed continuously by the teacher. This is particularly so when the child being noticed happens to be taking leadership roles and making their accomplishments known, as in the case of several boys described by teachers in this study. The following extract illustrates this point:

Liam knows he's really bright and he'll tell everybody all the time, Hannah doesn't do that at all ... she knows how other people feel and she wouldn't want other people to feel badly that they didn't do as well. (Interview 6)

The category of noticeability is crucial for the identification of gifted children, since without the capacity to have their abilities noticed and acted upon by teachers, gifted children are at risk of underachievement (Rimm, 1991, 1997). The data emerging from this study indicate that in the vast majority of cases, gifted boys are much more adept at being noticed than gifted girls (Lee, 2000), and indeed, some teachers, noting this phenomenon, were at a loss to explain why it was the case. One teacher stated:

A really talented boy is noticeable; don't know why shouldn't that be for girls. No, got no answer for that at all. (Interview 8)

It is clear that while teachers see giftedness as 'noticeable' in the manner in which teachers in this study described it, highly compliant and adaptive gifted girls will be overlooked in the identification process. Thus, teachers construct barriers to gifted girls by looking for giftedness through the lens of gender. Hence, in overlooking girls in the identification process, teachers also overlook the need to provide appropriate enriching experiences that will meet their needs and cater for their interests and abilities adequately.

Giftedness as Motivation: what does it mean for gifted girls and boys?

Teachers in this study saw motivation as a means of distinguishing gifted children from very bright children. In particular, motivation referred to gifted children's capacity to take a further step in conducting their classroom and home-based tasks and projects. Teachers saw this unsolicited extra work as signifying high levels of motivation and task commitment and as indicative that a child is gifted.

However, in this study, it can also be seen that boys have many more opportunities to work independently and are not often expected, as girls are, to assist other students and tutor their less able peers. In instances where boys were asked to help, they most often openly resisted this request, or used the opportunity to master their existing high-level skills. This is evident in the example of a boy described in interview 8 who became the classroom

computer expert and used his skills to assist the entire class to use the computer. Thus, his role became one of leadership in the use of the computer and afforded him status and recognition. On the other hand, the gifted girls were, without exception, willing to and did in fact spend their early finishing time assisting other, less able children with routine classroom tasks such as spelling.

The phenomenon of the 'interruptable woman' who does not pursue her goals single-mindedly at the cost of others has been noted elsewhere in the literature (Gilbert & Taylor, 1991). This research confirms that gifted girls in early childhood are seen to be more interruptable than their male peers; in this regard, they are not afforded opportunities to pursue their interests in class time to the degree that boys are. A consequence of this is that gifted young girls do not have the same opportunities to experience or demonstrate the 'task commitment' that Renzulli (1977) identified as a factor in his model of giftedness, and that several teachers in this study identified as a trait of giftedness. If girls have few or no opportunities to demonstrate task commitment because they are busy helping their less able peers, they are being disadvantaged in both educational provision and in being identified according to the teachers' conceptions of giftedness.

Some gifted girls demonstrated their high-level motivation by doing self-extension work at home and bringing it to school to show the teacher. However, boys were reported by teachers as more likely to 'show off' their work and seek recognition for their extra efforts than girls. One teacher contrasted a gifted boy and girl in her class in this way:

He shows us all the time what he's doing, where Hannah probably does as much but just doesn't show it so much. (Interview 6)

The notion of giftedness as motivation has implications for gifted girls, who appear in many cases to have yielded to the socially constructed expectations of them to be nurturing, deferring and helpful instead of single-mindedly pursuing their interests and goals. Boys, on the other hand, are afforded these opportunities to be autonomous and are much less tolerant of teacher requests to assist other children with routine tasks, thus giving boys more scope in class to pursue their interests and abilities. Again, this conception of giftedness reinforces gendered practices and provides a fertile field for the construction of gender among children, reinforcing and perpetuating limiting constraints on both boys and girls (Lerner, 1986; Yates, 1993; Connell, 1995).

Giftedness as Excellence: what does it mean for gifted girls and boys?

A view of giftedness expressed by teachers in this study is that gifted children excel in one or more areas. Whilst in some cases, teachers in this study considered girls and boys as gifted in both traditional and non-traditional areas, it is clear that the notion of excellence is also overlaid with teachers' implicit beliefs about gender. This category is one in which teachers see girls and boys

as having a similar range of strengths and aptitudes across the curriculum. Both boys and girls are noted as having exceptional ability in reading, writing, mathematics, science, art, music and sport. Whilst being seen as gifted across a range of curriculum areas, girls were most often considered by their teachers as being outstanding in language, particularly speech and punctuation. Girls' performance in mathematics and science was considered as gifted more tentatively than boys' performance. Generally, girls were considered gifted in these areas if they were able to do the work set by the teacher. Unlike the boys, girls' excellence in mathematics was judged typically on speed and accuracy rather than higher order thinking skills. Girls' performance in mathematics is often perceived as related to tasks that are 'low level' or rote while boys' performance is perceived as better on more complex tasks (Walkerdine, 1989). In this sense, this study's findings echo the words of Freeman (1996), who noted that girls are seen as 'plodders rather than high flyers' (p. 12), and Walkerdine (1989), who argued that 'teachers see girls' poor performance [in mathematics] as due to lack of ability and boys' to lack of effort' (p.10). An example of the differing levels of confidence in judging girls as gifted in language compared to science may be seen in the following extract from Interview 2:

across the range of curriculum, she was good, she was very good at language, exceptionally good at language but then so inquisitive with science and things that I guess you could call her gifted there too for the age level she was at and had no problems at all with mathematics, could work quickly and accurately.
(Interview 2 (my emphasis))

Acknowledgement was given for the excellence boys displayed when their work showed mastery and higher levels of difficulty on self-initiated tasks, as in the following interview extracts:

If they were asked to do two of their own sums, he'd think of the hardest possible sums imaginable and he'd spend all his time just doing those two hard sums, ... he'd be doing things like 1500 plus just really difficult sums for grade two and that's what he'd do. (Interview 1)

Advanced scientific knowledge in the physical sciences was noted by teachers in describing some boys in the study, but this was not the case for any girls.

He was just so far ahead of the other children and even when he'd give his morning talks it was at a level so far beyond them, his morning talks could be on a comet and he would have computer print-outs and he'd be using all scientific language and sometimes it was beyond me because I haven't got a scientific background ... if he was doing problem-solving he was quite creative in his explanations and his workings and he'd think of workings that the other children never used, he could always work them out ... he was just so advanced ... he was creative in what he did and he was totally independent and always looking for extension. (Interview 5)

Girls, on the other hand, were more often acknowledged for their high ability in the arts, language and biological sciences.

I would say she would be an above average student, across all she achieved very well, very well in terms of art, Melanie is very creative with textiles on top of that, and any other art work ... Melanie's real area, I guess, when we talk about science is biology and plants and animals and life type areas. (Interview 4)

The stark contrast between what teachers saw as exceptional for boys and what was exceptional for girls is highlighted in the following quotation from Interview 7:

When I look at Anthony, I look at the exceptional way he could cope with maths and how he seems to innately understand a lot of things; with Marcia I look at the exceptional way she writes, you know things like her turn of phrase and her spelling and her vocabulary that she was choosing, that alerted me to the fact that she had something special. (Interview 7)

It is evident from this research that teachers noticed, and identified as gifted, boys with high ability in mathematics and science more easily than girls. In addition, teachers identified this high ability in mathematics and science with greater confidence for boys than they did for girls. Teachers' perceptions of mathematics and science are influenced by the gendered dimensions inherent in these fields of knowledge. In light of this research, I argue that, in addition, high ability in mathematics and science constitutes giftedness itself in the minds of many teachers. The following is an illustrative example of such a belief:

I see all my kids as being gifted but if you're asking me about 'gifted' then I would think people would say, maths/science (Interview 10)

Since boys are seen by teachers as being innately more suited to and able in mathematics and science, it may be concluded that boys themselves are conceived of by their teachers as more likely to be gifted than girls, and this perpetuates the 'binary structuring of the curriculum' discussed by Martino (1997, p. 129) whereby:

Certain forms of knowledge and patterns of behaviour become hierarchically structured and valorised with [the] gender regime – maths, in being assigned a masculine status, is positively valued in that it is set in opposition to subject English, which becomes designated as the devalued feminised other. It is in this way that certain subjects become associated with males and others with females – a cluster of specific kinds of gendered capacities becomes mobilised around certain subjects and this dictates certain patterns of learning. (pp. 129-130, my emphasis)

Thus, teachers in this research, by perpetuating this binary division of the curriculum into masculine and feminine subject areas, actually designated high ability in these subjects to boys and girls accordingly. Hence, girls may experience conflict between what their real interest and passion may be and the 'hidden curriculum' regarding their femininity, thus influencing their

motivation for and participation in certain curriculum areas. Despite good performance in mathematics and science curriculum areas, secondary school girls and boys continue to choose subjects that are in line with the feminine and masculine stereotypes (Collins et al, 1996; Lingard & Douglas, 1999), thus providing evidence that early gender construction has a long-term impact on girls' subject and career choices.

**Giftedness as Asynchronous Development:
what does it mean for gifted girls and boys?**

The final category of description used by teachers to identify giftedness among young children is that of asynchronous development. In most instances in this research, this asynchrony was associated with perceived developmental delays in either social or physical skills. I now examine the gender implications of asynchronous development in light of the particular interpretation of asynchrony derived in this research from the interviews with teachers.

First, asynchrony in social development has a clear gender dimension. Teachers in this study described many more gifted girls than boys as being pleasing to the teacher, and one way in which this was manifested was through being socially mature and sensitive to the needs of others. Alloway (1995) describes the way men and women (and boys and girls) are constituted to take up differing practices in relation to social skills as follows:

Men were to understand their maleness in terms of their disconnectedness, their alienation from the lives of women and children: women to understand themselves as essentially connected to all others through their assumption of duties that centred on care. (p. 20)

Gifted girls and boys in this study were seen by their teachers to take quite different approaches to social interactions and conventions. Girls were more often reported as being willing to help other children, do the right thing and have a gentle, nurturing disposition. Comments illustrative of this belief are:

She would do her best to, you know, help them along [the other children] or fit in with them ... she was always doing the right thing and she was seen to do the right thing. So socially she was just a great little girl, I mean I never had a problem with her (Interview 3)

She was a lovely girl because she's that kind of nature, very gentle nature and very helpful ... she did a lot of peer help, peer group tutoring ... Anna was lovely, she'd, whatever you asked her to do, she'd do it ... she wasn't a bored type of person either, she didn't throw her hand up and say 'this is boring', she was attentive ... Anna didn't want to be a leader, Anna was quite happy to take a back seat (Interview 11)

I think by the nature of girls, I think girls tend to be more ah, caring ... they love doing jobs, they love helping, they love tutoring the other students, they love being

the teacher, they love playing the game that they play at home with their dolls, you know? So they're very socialised towards an institution like this, you know, this is their sort of institution (Interview 13)

Girls take up feminine practices through a process of social construction (Connell, 1985; Gilbert & Taylor, 1991, Yates, 1993; Alloway, 1995). The passivity and nurturance associated with the types of social skills being valued in the teachers' statements highlight that the social construction of feminine behaviour is at work in the lives of these girls in early childhood. These statements reflect what teachers value, and their statements indicate that they reinforce them in classroom interactions. Helpful, compliant girls are highly valued by their teachers. The fact that these girls also happen to be high achieving does not assist them in being recognised as gifted when teachers draw on the understanding of compliance as giftedness. Since girls rarely display social asynchrony, they are not often seen as asynchronous and therefore gifted in this way.

By contrast, gifted boys were seen to be socially 'out of step' with others in the class and were described in very different terms by their teachers:

Sean, you know, it would be an effort for him, I mean if kids asked for a spelling word, he would help them, but he wouldn't sit one to one helping them because he was so intent on getting his own work done (Interview 11)

He was inclined to call out, to shout out to give all the answers and this upset the other children ... he doesn't socialise well (Interview 12)

He would basically say, 'oh this is really boring, I don't want to do this' ... he had a lot of trouble working with other people because he would say, 'this is the answer and this is how you do it' and he didn't think what the other kids said was important, that was one reason why he didn't get on well with the other kids. (Interview 13)

Gifted boys may be seen to be developmentally asynchronous in terms of their social ability because, in contrast, their cognitive development is considered advanced. However, if teachers see the differentiation between poor social skills and advanced cognitive skills as a sign of giftedness, then once again, girls are disadvantaged. Since boys are less likely than girls to adapt to social conventions or show social maturity and demonstrate 'disconnectedness' (Alloway, 1995, p. 20), it is more likely that under this conception of giftedness, teachers will identify boys.

Similarly, the conception of giftedness as asynchrony of physical skills works to disadvantage girls. Many girls are encouraged from the very earliest play experiences to develop their fine motor skills in activities such as colouring, cutting, playdough, dressing dolls and playing with 'girls' toys' such as tea sets, whilst many boys tend to be encouraged to develop large motor skills such as climbing, running, jumping and kicking and playing with 'boys' toys' such as balls. Evidence that children have developed a preference for this

type of play by pre-school age is evident in the research of Turner et al, (1993). Thus, the very types of physical skills children are socialised to develop can be gendered from the outset. Boys who do not display physical skills in line with their male peers, such as the boys described in the following interview extracts, who demonstrated poor gross motor skills, are considered atypical. Some extracts from the interviews indicate teacher concern at gifted boys' lack of gross motor skills:

Duncan wasn't particularly good at sport, actually I think he ... mightn't have had such great gross motor coordination like catching balls and things, I think. (Interview 6)

The other area he was weak in was his gross motor skills, running, hopping, skipping, all those skills. (Interview 5)

In the same way that asynchrony *socially* is more noticeable in boys, so too do teachers in this study describe the physical asynchrony. Because of the lens of gender they applied, teachers had different expectations of boys' and girls' physical skills. Boys who excelled academically but not physically were seen to be asynchronous developmentally and also out of synchronisation with the masculine stereotype of the physical boy. I argue here that such difference makes them more noticeable to their teachers, as indicated in the following extract from interview 13:

There was a sort of clumsiness about him, just remembering him, there was a clumsiness about him from the point of view, like, catching a ball, [he wasn't] very gross motory [sic]. (Interview 13)

Conclusion

It can be seen that teachers' conceptions of giftedness, as defined in this study, are profoundly overlaid with their beliefs about gender. In each of the seven categories discussed, the teachers' conceptions of giftedness interacted in complex ways with their beliefs about gender. This 'gendered' view of giftedness is problematic for young gifted girls, who appear to be disadvantaged in *each* of the seven categories of giftedness (Lee, 1999). Whilst the teachers' conceptions of giftedness indicated that their views of giftedness are consistent with current explicit theory in giftedness and intelligence, there is a far greater disparity between teachers' beliefs about gender and current feminist theorising

Thus, this study found that teachers' conceptions of giftedness acted as a significant barrier in the identification of gifted girls, particularly girls with high ability in mathematics and science. At the same time, these conceptions may, in fact, result in a situation of overidentification of boys. The implications for boys who are identified inaccurately as gifted may only be speculated upon; it may be that faced with the demands of a teacher who has decided he is gifted,

a boy labelled incorrectly may encounter significantly elevated levels of stress and frustration when he fails to measure up to such expectations.

Conceptions act as filters through which teachers make curriculum decisions. Teacher attitudes and interactions, unavoidably influenced by their conceptions, will in fact construct expectations that fulfil their beliefs about gender and intelligence. So, for some teachers, gifted girls do not exist because they do not fit with the teachers' conceptions of giftedness. The *masculinisation of giftedness*, both historically and evidenced in this research, serves to construct and reconstruct an image of giftedness as inextricably linked with high ability in mathematics and science, valorising male-dominated domains of knowledge as the 'true' fields in which high ability exists and may be observed.

However, gifted boys are also limited by the gendered nature of these teachers' conceptions. Opportunities for children to express and develop their giftedness are constrained by stereotypical beliefs about masculinity and femininity. Many children who do not match these gendered ideals are described by teachers in this study as atypical, with teachers describing boys in this group as 'soft' and the girls as 'tomboys'.

These findings mean that gifted girls are subject to teacher expectations that fulfil and confirm the teachers' gendered perceptions of ability, masculinity and femininity. Such expectations seriously disadvantage high-ability girls who have learned to mask their ability, conform to stereotypic feminine standards (Kerr, 1985, 1994; Bell, 1989; Reis, 1990; Callahan et al, 1994; Smutny, 1998) and regulate their interests and abilities in line with their perceptions of femininity (Martino, 1997). In other words, the teacher in interview 10 was accurate in her statement that gifted girls 'have got their work cut out for them' in being identified and provided for as high-ability students.

It is argued here that there are significantly fewer opportunities for girls than boys to be identified under the model of giftedness derived in this study. That is, this study found that teachers' conceptions of giftedness are based on masculine stereotypes and afford boys many more opportunities than girls to be identified as gifted and catered for appropriately. This study confirms and elaborates the findings of Feldhusen (1990), who established that 'teacher attitudes toward and treatment of gifted girls may perpetuate debilitating sex role stereotypes for gifted girls and diminish their opportunities for high level success' (p. 205). Hence, the teachers' conceptions of giftedness reported in this article present genuine barriers to young girls and underachieving or 'non-typical' boys in the identification and development of their talents and abilities from early childhood.

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