Betty the Builder, Neil the Nurse

Sex-Typing of Occupations in Primary Schools

A research report produced for the
Equality Commission for Northern Ireland

by

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Executive Summary

This report presents the results of a study commissioned by the Equality Commission for Northern Ireland undertaken by a team of researchers from the Graduate School of Education, Queen's University Belfast.

The focus of the study was on primary school children at Key Stage 1 (primary 3) and Key Stage 2 (primary 6). It examined their views of occupational sex-typing and the implications these views have for educational practice. It also sought the views of teachers and teacher trainers on the issues surrounding children's stereotyping of occupations. The research involved the administration of questionnaires to children at Key Stages 1 and 2 and their teachers; focus groups were conducted with children and teachers; and views of teacher trainers and Curriculum Advisory Support Service (CASS) officers in Education and Library Boards were obtained through semi-structured interviews. Fieldwork for the study was conducted between September 1999 and February 2000. Altogether 1,579 pupils from 25 primary schools and 285 teachers from 144 primary schools in Northern Ireland completed and returned questionnaires.

The questionnaire designed for pupils looked primarily at whether Key Stages 1 and 2 boys and girls have internalised notions about occupations being appropriate for a man only, a woman only or both.

The questionnaire designed for teachers focused on teacher training/in-service training, awareness of gendered behaviour, awareness of occupational stereotyping, and challenging gendered behaviour/occupational stereotyping.

Survey evidence was supplemented by focus groups conducted with Key Stages 1 and 2 pupils, teachers and student teachers, as well as semi-structured interviews with teacher trainers and field officers.

Main Findings

- The evidence from this research shows that primary school children stereotype a significant number of occupations along gendered lines. While the majority of occupations presented to children are perceived as appropriate for both sexes, almost one third of occupations are viewed as for one sex only.

The majority of boys think two of the twenty-nine occupations included in the questionnaire are for women only; these are Nurse and Fashion Designer. Six of the twenty-nine occupations are felt by the majority of boys to be for men only. There are eight occupations out of twenty-nine which the majority of boys feel are for both sexes. With regard to the remaining thirteen occupations, there appears to be no majority stereotyped view (ie, a category equals 60% or more) held by the boys.

The same two occupations of Nurse and Fashion Designer are held by the majority of girls to be for women only. The same six occupations of Bus Driver, Firefighter, Electrician, Builder, Car Mechanic and Road Sweeper are held by the majority of girls to be for men only. However, there is an interesting finding in that approximately two thirds of girls find more of the occupations suitable to both sexes rather than to one sex. This number of girls report an extra five occupations compared to the same number of boys which is an indication that primary school girls do feel that there are more occupations for both women and men, rather than one sex only. Regarding the remaining eight occupations, there appears to be no majority stereotyped view (ie, a category equals 60% or more) held by the girls.

- Key Stage 2 pupils are less stereotyped than their Key Stage 1 counterparts in relation to occupations being for one sex only.

Approximately two thirds of Key Stage 2 pupils report thirteen occupations to be for both sexes, whereas the same number of Key Stage 1 pupils report only two occupations to be for both sexes.

- Children's own choices of occupations are strongly gender-biased. Choices among primary school girls reflect social and caring themes, whereas the occupations that boys choose have an active bias with many requiring strong physical attributes. In addition to girls' occupational choices reflecting social and

caring themes, it should be noted that the most popular occupational choices among girls are more academically ambitious than the boys' choices.

The most popular occupational choice among Key Stage 1 girls is Teacher, with approximately 25% opting for this job, followed by Vet 14%, Nurse 13% and Hairdresser 12%. For Key Stage 1 boys it is Police 18%, followed by Footballer 13% and Firefighter 10%. The most popular occupational choice among Key Stage 2 girls is Vet 25% and for Key Stage 2 boys it is Footballer 21%.

In focus groups children discuss occupations along very stereotyped lines. Many of their comments reflect an acceptance of gendered roles and differences between men and women that translated to occupations.

- Teachers perceive that parental influence and home background are major factors in the formulation of a child's beliefs towards occupations.

Survey evidence indicates that 50% of teachers believe Parents to be one of the most influential factors in the formulation of occupational stereotypes among children, followed by Home Background (17%), Others (14%), Television (13%), and Family Circle (6%).

- Teachers are aware that children do hold stereotyped views of occupations and that it is an important issue. However, they appear complacent in their attitude towards whether they can do anything in the classroom to make a difference.

Seven out of ten teachers find it obvious that children hold stereotyped views of particular occupations. However, an equal number indicates that evidence of occupational stereotyping does not loom large in the everyday classroom situation.

Four out of five teachers feel that the issue of children holding stereotyped views of particular occupations is important. However, they appear to be equally divided in regard to whether or not stereotyped views of occupations which children hold will break down as they get older, regardless of being challenged in the classroom.

- Teachers do feel responsible for challenging traditional gender roles. However, they appear to have other higher priority issues in the classroom.

Seven out of ten teachers feel it is their responsibility to challenge traditional gender roles in children, yet, six out of ten teachers feel that counteracting gender stereotyping is low on their list of priorities in the classroom. Four out of five teachers feel they are not helpless in counteracting gender-stereotyped notions that children hold and they actually do challenge stereotyped views of occupations when they arise during class.

The evidence from focus groups with teachers reveals that they try to adopt a neutral stance in providing an environment that promotes gender equality. However, they are also aware that sometimes they have personal difficulties in maintaining a neutral stance.

- Teacher training does not directly address gender issues in the classroom.

Three in five teachers report that gender issues were not raised during initial teacher training, and they are equally divided in regard to their opinion on in-service courses raising issues dealing with gender in the classroom.

There is also no policy in teacher training institutions in Northern Ireland for training aspiring teachers to actively promote gender issues among pupils in the classroom. A consequence of this is that teachers may view gender equity as being low on their list of priorities.

- A significant proportion (40%) of teachers feel that the Northern Ireland Curriculum has had no effect in challenging stereotyped views of occupations.

In addition there is a shared view among teacher trainers and field officers that the Northern Ireland Curriculum has not clearly addressed gender equity. As one field officer states: "*The Northern Ireland Curriculum has brought in a more structured approach and increased planning . . . whether it has made a difference to boys' and girls' views, I don't think it has. Schools are now having to look at how they bring up all learners and I am not certain of where schools are in terms of equal opportunities.*"

- Teachers regard English, mathematics and science as being preferred more by one sex than the other.

At Key Stage 1, no teachers rate English to be the most preferred subject by boys, whereas 35% rate it for girls. For mathematics 20% of teachers rate it as the most preferred subject for boys and only 2% rate it for girls. Nearly 25% of teachers rate science as the most preferred subject by boys, whereas only 4% rate it for girls.

Less than 1% of Key Stage 2 teachers rate English to be the most preferred subject for boys, compared to 23% who rate it for girls. For mathematics 10% of teachers rate it to be the most preferred subject for boys and only 2% rate it for girls. For science 13% of teachers think of it as being the most preferred subject for boys and a much smaller percentage think the same for girls (4%).

- Key Stages 1 and 2 boys and girls are very similar to each other in their responses for English, mathematics and science as being their most favourite subjects.

The same number (18%) of Key Stage 1 boys and girls rate English as their most favourite subject, and the same number (10%) of Key Stage 1 boys and girls rate science as their most favourite subject. Only 7% more Key Stage 1 boys than girls rate mathematics as their most favourite subject.

For Key Stage 2 pupils, only 3% more girls than boys rate English as their most favourite subject. The same number (14%) of Key Stage 2 boys and girls rate mathematics as their most favourite subject and the same number (7%) of Key Stage 2 boys and girls rate science as their most favourite subject.

Recommendations

The principal finding of this study is that children at Key Stages 1 and 2 stereotype a significant number of occupations along gendered lines. In addition, evidence from focus groups with children at Key Stages 1 and 2 indicates that their own choices of occupations are strongly gender-biased. The research also produced evidence from teachers and teacher trainers that suggested a lack of awareness of gender equity issues. These findings, combined with recent evidence on the career aspirations of girls and their continuing preferences for traditionally sex-typed occupations (Miller & Budd, 1999 and Daniel, 1994), are very disappointing. It might have been expected that legislative and educational initiatives undertaken over the last twenty-five years could have produced a more positive outcome in terms of a breakdown in gender stereotyping.

Classroom experience has been identified in the literature as having a significant impact on the development of children's perceptions of the gender appropriateness of tasks. It was evident from focus groups with teachers and interviews conducted with teacher trainers that there is no clear direction given to teachers on issues surrounding gender equality either in pre- or in-service training. These sources also made reference to the inherent difficulties in attempting to challenge gender stereotypes within an environment that presents a stereotyped picture of teaching. These findings have led the researchers to make the following recommendations, firstly, to those who are responsible for developing and implementing policy on teacher training in Northern Ireland and, secondly, to those responsible for establishing an educational environment that promotes gender equality – school governors, head teachers and teachers within primary schools.

Department of Education

It is recommended that the Department of Education produce clear guidelines on how equality of opportunity and in particular gender equality can be promoted within primary school education. These guidelines should be aimed at those bodies and institutions responsible for the provision of both pre- and in-service training of teachers.

It is further recommended that the Department of Education provides training for Boards of Governors and head teachers of primary schools that raises awareness of the need to promote equality of opportunity in relation to gender in all school activities.

Pre-service training

It is recommended that training institutions be required to draw up policies that seek to address equality of opportunity in the classroom. In addition each institution should appoint a co-ordinator to ensure the implementation of policies.

The central aim of policies should be the integration of equality considerations into all classroom practice. Evidence from this study indicates that gender equality is not addressed directly within initial training. It is recommended that it be viewed as a core element of professional studies. Student teachers need to receive training in integrating gender equality into their own practice. Specifically, there should be an element of the course that trains students in:

- promoting gender equality in the classroom;
- raising awareness among pupils of future job opportunities available to them;
- teaching pupils that both boys and girls have freedom of choice;
- demonstrating to pupils that they do not have to adhere to gender stereotypes.

In-service training

Primary school teachers should be provided with in-service training which:

- reviews teaching methods that enable gender equality to be promoted in the classroom;
- raises awareness on providing a classroom environment that encourages equality of opportunity among pupils;
- generates ideas for teachers to identify appropriate times in which the world of work could be incorporated into classroom activities.

To this end, it is recommended that Education and Library Boards should look towards supporting the role of a CASS officer who deals specifically with gender equality across the curriculum.

An interesting finding of the report is that teachers with 15 years or less experience (52.1%) are more likely, compared to those with 16 years or more experience (13.9%), to have had gender issues raised within their initial training. Therefore, there is a greater need for more experienced teachers to be made aware of gender issues as part of their in-service training.

Board of Governors

It is recommended that the Board of Governors in each primary school draw up a policy that actively promotes gender equality in all activities of the school. This policy should be accompanied by clear plans on how the policy is to be implemented and who has responsibility within the school for its implementation.

In drawing up such policy, the Board of Governors should be aware that the emphasis to date in promoting equality of opportunity has been on girls' entry into non-traditional occupations. There is now a need for a greater balance to be achieved in promoting freedom of occupational choice regardless of sex.

Schools should consider making regular arrangements for pupils to have the opportunity to talk to a person who carries out a particular job, such as a male nurse or a female firefighter.

Head teachers

Head teachers should be actively seen to promote gender equality issues with teaching staff in their schools, particularly in relation to in-service training.

Teachers' self-awareness

Teachers' self-awareness of gender equality should be raised continually. This can be done through teacher training (pre-service) and continued through in-service training. Only by re-visiting their self-awareness can teachers automatically promote gender equality in the classroom.

Classroom practice

Teachers need to be more aware of their own stereotyped views of gender and the dangers of transferring these (even subconsciously) to the children in their class. This should follow on from the promotion of gender equality issues within teacher training (pre- and in-service).

Teachers should be aware that when opportunities arise, they should attempt to challenge boys and girls following gender stereotyped roles. During playtime this could include encouraging them to use both traditional and non-traditional toys and putting them in traditional and non-traditional play situations at Key Stage 1. For Key Stage 2 these challenges could be met during, for example, group discussions/"Circle Time".

Teachers should not be complacent about being unable to challenge the traditional gender roles children have which, they feel, are instilled in them by their parents, family and television even before they attend primary school.

While these recommendations are directed at teachers, the school and Board of Governors should have an integral role in ensuring, through its policies on equality of opportunity, that they are given a higher priority.

Classroom resources

Classroom resources, which include reading materials, wall displays, play areas, and the entire classroom environment, need to be examined to ensure that they do not promote gender stereotypes among primary school children regarding occupational choice.

Further research

It is recommended that the same type of research be carried out with a new sample of pupils at Key Stage 3 and above to see if older children hold the same type of views as those in the present study.

It is also recommended that this research be carried out with Key Stage 1 and 2 pupils in ten years time to see if the stereotyped views of boys and girls found in the present study are still apparent.

Qualitative research should be conducted into observing teaching methods among teachers and play activities among pupils, as well as examining classroom resources, and the classroom environment to see whether they are promoting gender equality.

The further research suggested above could be sponsored by a number of publicly funded and voluntary organisations.

Northern Ireland Curriculum

Gender equality issues ought to be addressed directly in the Northern Ireland Curriculum Review. These should be at a subject level in relation to what will be taught in the programmes of study and how proposed schemes of work and assessment methods will be gender-inclusive.

Literature review

Perusal of the school performance literature reveals that, throughout the last decade, girls have consistently outperformed boys in a wide range of public examinations. From Key Stage 1 through to A-level, girls have performed better than boys in traditionally 'female' subjects such as English and modern languages, and in traditionally 'male' subjects such as mathematics and science (Warrington, Younger and Williams, 2000). Paralleling these developments, the number of females entering higher education has also exceeded males. Female entrants to undergraduate university courses currently stands at 56.1% and at 50.6% for entry to postgraduate degree courses (EOC, 1999). Despite these trends, other evidence suggests that the early academic advantages accrued by females are short lived and rarely transfer to the workplace. For example, an examination of the career aspirations of school leavers showed that, irrespective of their academic achievements, girls generally hold lower career aspirations than boys and express a greater preference for traditionally sex-typed occupations (Miller and Budd, 1999; Daniel, 1994).

In contrast to claims that an increasing number of women are now entering previously male dominated occupations (Lightbody and Durndell, 1996), other evidence suggests that some occupations remain segregated by sex. Recent employment statistics for Northern Ireland show that women are predominantly found in the caring, education and retail sectors but remain underrepresented in engineering, information technology and the sciences, traditionally 'male' dominated fields (EOC, 1999). Even within traditionally 'female' occupations such as education, in Northern Ireland, only 57% of deputy head teachers and 40% of head teachers are female (DENI, 1999). Female head teachers are generally found in nursery schools, primary schools, single-sex girls' secondary schools or schools with less than 100 pupils.

Defining sex and gender

Used interchangeably, the terms sex and gender are used to describe the behaviours, aspirations and career choices of children and adults. Both gender and sex were terms widely used in the 1970s. More recently, the distinction between these labels has blurred to the extent that they are now open to interpretation and inexact usage (Lightbody and Durndell, 1996, Lloyd and Duveen, 1992). To avoid

possible ambiguity the present study adopts the definitions offered by Siann (1994), who defines sex as biological or anatomical differences between males and females, that is, physical differences of the body, and gender as a term that encapsulates psychological, social and cultural differences between males and females. Thus the distinction on the one hand emphasises physiological features while on the other it stresses a cultural construct or a set of learned behaviour patterns.

The development of gender stereotypes

In order to understand the nature of occupational stereotypes among school children, it is necessary to examine the developmental progression of stereotyped attitudes. Generally defined as standardised beliefs about a specific group, stereotypes are typically activated from memory when a member of a particular group or anything associated with the group is encountered. Stereotypes can be learned through direct tuition, modelling or observation. Cultural definitions of 'maleness' and 'femaleness' are also believed to influence gender-schematic processing of gender identity and sex-typing (Bem, 1981). These structures or schemata are continuously modified and reformed to incorporate new ideas and knowledge as the developing child acquires greater experience, understanding and knowledge of the world. The development of gender labelling, where boys and girls accurately label themselves and others, is typically seen in children between the ages of 18 and 24 months. Its appearance is believed to accelerate the process of sex-typing in behavioural preferences and interaction with peers (Fagot et al, 1992).

Concepts of gender continue to develop throughout the pre-school and primary school years as children internalise knowledge about behaviours deemed 'appropriate' for their sex. Research examining children's views of adult occupations found that 3 and 4 year old children were able to identify the typical occupations of men and women (Huston, 1985, 1983). By 4 to 5 years of age these same children showed a preference for gender stereotyped occupations. However, young children were unable to assign traits such as assertiveness, cooperativeness or independence to members of a particular group. Huston concludes that it is only in middle childhood, from about 9 years of age, that personality traits are used to determine the suitability of particular occupations for males and females. Shepard and Hess (1975) compared the views of kindergarten children, eighth grade children, undergraduates and adults on the sex-typing of different jobs by asking them to indicate whether forty-three occupations and activities 'should properly be

undertaken by a male, a female, or either one'. Females in the three older age groups held significantly more liberal attitudes about the appropriateness of these occupations than males. Occupational sex-typing was also seen to decrease with age, with all participants from kindergarten through to undergraduate level showing a significant decrease in the strength of their views, but with older adults showing significantly more stereotyped beliefs.

Support for these findings comes from a recent study of occupational stereotyping by Miller and Budd (1999) who surveyed 594 children aged 8, 12 and 16 years of age. Their results indicated that younger children held significantly more sex-typed views than older children and that girls expressed more liberal views regarding occupational appropriateness than boys; however, this difference was not significant in the younger age group. Yet despite their apparent liberality, when questioned about their future career aspirations, girls consistently identify a narrower range of traditional occupations than boys (Francis, 1996; Kelly, 1989).

Parental influences

In examining the factors that shape occupational stereotyping, a growing literature has focused on the role of parents. For example, Fagot et al (1992), found that mothers of early gender-labellers were more likely to initiate sex-typical play, responded more positively to sex-typical toy play and initiated less opposite-sex toy play with sons than the mothers of late gender-labellers. Early gender-labellers are children who at a young age (between 2 and 3 years old) are capable of identifying a girl or a boy from a series of coloured photographs each showing only the head and shoulders of a fully clothed boy or girl. The evidence also suggests that parents tend to reward gender-typical and punish gender-atypical play in children. Etaugh and Liss (1992) surveyed 245 children in grades 3, 4 and 6 before and after Christmas asking about the gifts they wanted, those they received, the jobs they were given at home and their occupational aspirations. The children generally asked for and received gender-typical toys but were less likely to receive requested gender-atypical toys.

Consistent with previous research (Cogle and Tasker, 1982), Etaugh and Liss found that parents who gave boys traditionally masculine jobs about the house such as emptying bins were more likely to give masculine gifts as toys. Those who gave girls traditionally feminine jobs such as dusting were more likely to give feminine or

neutral toys but rarely gave masculine toys. Moreover, they noted a significant relationship between the tradition of the mother's, rather than the father's, occupation and the child's occupational interests. That is, children of mothers employed in non-traditional occupations tended to have less occupational stereotyped aspirations. However, the reason why a mother's, rather than a father's, occupation might influence a child's career aspirations is unclear. Etaugh and Liss suggest that the rarity value of a mother's non-traditional occupation might make it more attractive and salient to young children. This explanation fails to account for the large number of children who aspire to more traditional sex-typed occupations.

The influence of siblings

Another important influence within the home can be the presence of same and opposite sex siblings. Literature addressing the effect of siblings on occupational aspirations, however, is sparse and inconclusive (Huston, 1983). For example, Kosh (1955) found that girls with brothers demonstrate less sex-typed behaviour, than girls with sisters. In contrast, Lawrie and Brown (1992) found that girls with same sex siblings had less stereotyped views than those with opposite sex siblings, but the pattern was reversed for boys. Lawrie and Brown also investigated the effect of mixed-sex schooling on the career aspirations of 284 fourth year pupils. Their results showed that girls attending single-sex schools had higher career aspirations than those attending mixed-sex schools, but found no difference in the aspirations of boys. Despite the inconclusive nature of these findings, the literature suggests that single-sex schools and female siblings have a more positive effect on the career aspirations of females than either mixed-sex schools or male siblings.

Television and media

Television is another factor implicated in the development of gender role stereotyping (Sheehy, 1999). Prominent in most homes, television is an important source of entertainment and information. Indeed, such is its attraction that, from their earliest years, most children watch over 20 hours of television each week and see 20,000 advertisements a year (Children Now, 2000). Consequently, concern has been voiced about the impact television portrayals of men and women have on children's concepts of gender. For example, it is argued that television depicts males more frequently and in a greater variety of roles than females and in doing so sends out messages that 'it is a man's world' (Van Evra, 1990). Moreover, females are generally portrayed in secondary roles, for example, as nurses rather than

doctors or as secretaries rather than management executives. When females are shown in high status positions, their personal lives are rarely seen as happy.

A similar pattern is found in children's television, where boys are depicted as naughty, aggressive and fun-loving more often than girls who are depicted as cute (Sheehy, 1999). Evidence suggests that exposure to certain types of television portrayals can have a significant impact on children's beliefs. Gunter (1995), for example, found that a large percentage of 13 and 14 year olds obtained their career information from television (89% and 97% respectively). In addition, the more television girls watched the less ambitious they thought women were in general. Conversely, these girls had higher career aspirations than girls who watched less television. One explanation for these findings is that, having seen the limitations of traditional careers, girls seek other more challenging roles. A caveat to this suggestion is provided by Gunter and McAleer (1997) who caution against over-estimating the impact of television in moulding children's gender concepts. They argue that other agents such as parents and teachers warrant examination.

The classroom experience

A growing body of literature suggests that gender issues underlie a number of classroom activities (Singh, 1998). For example, research indicates that children's textbooks often reflect gender stereotypes (McAuliffe, 1994). Women are generally depicted as mothers, nurses or shop assistants, while men are seen in a range of exciting and dangerous occupations such as firefighters, steeple jacks and train drivers (Scott, 1988; Byrne, 1983). The influence of gender-typed books on behaviour has been reported by several writers who found that exposure affected children's play preferences and their perceptions of the gender appropriateness of a task. Ashton (1983), for example, claims that exposure to gender stereotyped books contributes to an increase in children's stereotyped play behaviour. While McArthur and Eisen (1976) found that nursery school boys work harder on a task after hearing about the achievements of a male character than after hearing about the achievements of a female character, the opposite is true of nursery school girls.

Subject choice

Sex differences in A-level subject choice and rates of achievement within subjects are well documented (Whitehead, 1996). The physical sciences, crafts, computers, mathematics and PE are generally regarded as masculine subjects and tend to be

preferred by boys, while English, French and RE are regarded as the most feminine subjects and preferred by girls. Colley et al (1994) examined the subject preferences of 11-13 year old pupils on nine curricular subjects. Girls ranked English as their first subject choice followed by the humanities, while boys ranked PE first followed by the sciences. Similar results were reported by Weinreich-Haste (1981, 1979) who asked 11-15 year old pupils to rank subjects along several dimensions: masculine-feminine, difficult-easy, interesting-boring, useful-useless, complicated-simple, about people-about things, involves feelings-involves thought. The physical sciences and mathematics were ranked as the most masculine subjects and French and English the most feminine subjects. In an extension of this research, Archer and Macrea (1991) found that 10-11 year old girls and boys rank masculine subjects as significantly more difficult than feminine subjects, which were considered simple and boring. A clear link between subject preference and occupational choice was established by Kelly (1989), who found that 14 year old boys chose careers requiring technical and scientific knowledge, while 14 year old girls selected occupations requiring communication skills. The main occupational preferences of boys were engineer, pilot and computers, and for girls, nurse, teacher and hairdresser. Colley (1998) contends that stereotypical notions of occupations are acquired during socialisation and reinforced by prevailing beliefs and educational practices that are influenced by the same stereotypes. While a number of interventions have been designed to counter the masculine stereotypes of subjects such as mathematics, computers and the sciences, nothing has been done to redress feminine stereotypes. Colley points out that the possible disadvantage these stereotypes have for males warrants attention.

Gender differentiation in the classroom

Gender is also salient in school practice, with girls and boys grouped separately when lining up for class, entering school through either the 'girls' only or the 'boys' only entrances and having access to different parts of the playground (Lawrie and Brown, 1992; D'Arcy, 1990). Typically, playgrounds are marked out as football pitches with boys apportioned the larger area for play, while girls are confined to smaller areas (Thorne, 1993). Within the classroom, gender continues to influence children's educational experiences (Sadker and Sadker, 1986). Differences in the amount of teacher attention given to boys and girls are well documented, with boys reputedly receiving more attention than girls (Johnston et al, 1999). However, the impact of differential treatment is largely ignored by girls who generally perceive

teachers as treating both sexes equally, whereas the opposite is true of boys (Shropshire et al, 1997). One explanation for this disparity is offered by Williams (1993) who suggests that, since boys are socialised to expect more attention, they complain when it is not forthcoming; girls on the other hand get and expect less attention. In contrast to boys, girls are more motivated, better-behaved and less demanding of teachers (Davies and Brember, 1995). In the longer term, however, conformity serves to disadvantage girls. Whereas girls' conformity is perceived by teachers as an indicator of low ability, boys' non-conformity is seen as an indicator of high ability (Barber, 1994). Consequently, girls and boys tend to receive different feedback from teachers. Teachers mark girls' work by noting whether it is correct or incorrect, but provide boys with more detailed explanations about how they can improve upon their performance (Marshall and Smith, 1987).

A recent American study examined the mathematical performance of 6th grade children. The author, Tiedemann (2000), found that, despite the fact that there was no gender difference in their mathematics scores, teachers perceived boys as significantly more able than girls. Parents who used teacher assessments as a guide to their children's ability also assigned lower ability to daughters than sons. Similar results are reported by Wigfield et al (1997) and Wigfield (1994) who claim that the low expectations held by teachers and parents negatively impact on girls' self-competence (a belief in one's skills and abilities in a particular domain) and self-worth (a value one places on oneself).

Challenging stereotyping in the classroom
Controversy surrounds the role of teachers in counteracting gender stereotypes. Some argue that stereotypes are a product of the home, formed before a child starts school and therefore schools should remain neutral while allowing children to make their own gender choices (Singh, 1998). Evidence suggests that sex-typing is challenged more when teachers are comfortable with gender issues. Research examining the views of 1,519 Key Stages 1 and 2 teachers on gender issues in literacy education, shows that teachers generally feel comfortable ensuring that males and females participate equally in classroom discussions and when including non-traditional occupations in the curriculum (Commeyas et al, 1997). Teachers are not comfortable with classroom discussions about sexist language, the portrayal of men and women in classroom texts or asking boys and girls to identify with characters of their own sex. Singh (1998) contends that teachers are uncomfortable

with issues that may provoke controversy and are often unsure about the level of authority they can exert in directing classroom discussions. By intervening, teachers may inadvertently reinforce gender stereotypes, but in remaining neutral they may signal their endorsement of a particular stance. Singh suggests that teachers maintain a balance between introducing alternative viewpoints to ingrained thinking and becoming oppressive by stifling the views of their students.

The Northern Ireland Curriculum

The Northern Ireland Curriculum (National Curriculum in Britain) lays down patterns of study for all pupils in compulsory education through the definition of subject areas which must be included in the curriculum (Morgan, 1993). The intention was to address equality, particularly in terms of gender and ethnicity, through the specification of subjects to be studied and content areas within subjects (DENI, 1988). To ensure the delivery of equal provision, a new system of assessment was also introduced to examine children's performance at the end of Key Stages 1, 2, 3 and 4.

Research conducted in England by Smithers and Zientek (1991) found that teachers were generally aware of the gender-typed views held by pupils and that they intervened where appropriate. However, most claimed that gender equity would be achieved when the National Curriculum, which aims to promote gender neutrality, was fully implemented.

Methodology

A primary objective when designing the study was to generate data from as many perspectives as possible using both quantitative and qualitative research methods. The quantitative instruments used include questionnaires to generate data on pupil sex-typing with regard to occupations and teacher perspectives on a range of issues pertaining to sex-typing of occupations among primary school children. Qualitative data were generated from focus group discussions with pupils, teachers and student teachers at Key Stages 1 and 2 and semi-structured interviews with teacher trainers and field officers from the Education and Library Boards (ELBs).

The sample

At the time of this research there were a total of 916 primary schools in Northern Ireland (excluding preparatory departments). For the purpose of this study, all single-sex (42) schools were excluded from the sample leaving 874 primary schools. The reason for this was that all of these schools were within the maintained sector. A 1 in 3 sample of the remaining 874 schools was selected, stratified by size (enrolments of less than 100, 100-400, and more than 400) and school management type (controlled, maintained, and integrated). The breakdown is outlined in Appendix 1.

Contact with schools

The 1 in 3 sample produced 291 primary schools and each of them received a sufficient number of teacher questionnaires and one example of a pupil questionnaire for the head teacher. The questionnaires were aimed at Primary 3 (Key Stage 1) and Primary 6 (Key Stage 2) teachers and pupils. Initial contact with the chosen sample of schools was carried out through each school receiving a package containing a covering letter explaining the nature of the research. The letter requested head teachers to pass the teacher questionnaires on to the relevant members of staff along with freepost envelopes so teachers could return their questionnaires anonymously.

The letter also referred to the example of the pupil questionnaire and informed the head teachers that they would be contacted by telephone to discuss whether the P3 and P6 pupils in their school would be interested in completing the pupil

questionnaire. An opportunity sample of schools, taken from the stratified sample, was contacted by telephone and the head teachers were asked whether they would be interested in the P3 and P6 pupils taking part in the research. Out of those schools that agreed to the pupils taking part, ten were asked if they would be able to organise time after completion of the questionnaire for focus groups to be carried out with pupils from the classes involved in the study.

The reasons for using questionnaires in this particular piece of research are that they are cheap to administer and postal questionnaires have the added advantage of being able to reach people from wide areas (Kane, 1993; Moser and Kalton, 1992). They can be completed conveniently and questionnaires offer the possibility of complete anonymity. Furthermore, the absence of an interviewer ensures there will be no bias in the response (Polit and Hungler, 1993).

Responses to Teachers' and Pupils' Questionnaires

Teachers

Altogether 285 teachers from 144 primary schools completed and returned questionnaires (Appendix 1). Male teachers made up 24.2% of the total, with the remainder being female. These percentages roughly correspond to the Northern Ireland primary school teacher population as a whole – 20% male and 80% female. There was approximately the same number of Key Stages 1 and 2 teachers with a small number teaching both. Nearly 100% of Key Stage 1 teachers were female, but there was approximately the same number of male and female Key Stage 2 teachers. Nearly 100% of male teachers were teaching at Key Stage 2 level, whereas just over one third of female teachers were at the same level.

Table 1: Teachers by sex and Key Stage

Sex	Key Stage 1	Key Stage 2	Key Stage 1&2	Total
Male	1	66	2	69
Female	124	82	10	216
Total	125	148	12	285

Pupils

Altogether 1,579 pupils from 25 primary schools completed and returned questionnaires (Appendix 1). 50.4% of the questionnaires were from boys, with the remaining 49.6% from girls. These percentages correspond closely to the percentages for the Northern Ireland primary school population as a whole – 50.7% male and 49.3% female. There were approximately 41.2% of pupils from Key Stage 1 and 58.8% from Key Stage 2. There was approximately the same number of Key Stage 1 boys and girls and Key Stage 2 boys and girls.

Table 2: Children by sex and Key Stage

Sex	Key Stage 1	Key Stage 2	Total
Boys	319	477	796
Girls	332	451	783
Total	651	928	1579

A random sample of fifty schools was selected from the original sample of 291 schools for distribution of the pupil questionnaire. Each of the fifty schools was contacted by telephone on a number of occasions. An opportunity sample of twenty-five schools agreed to the pupils participating in the research. The remaining twenty-five schools were unable to participate due to time constraints such as the selection process for Key Stage 2 pupils, half term holidays, Easter and other religious preparations. The time frame of four months set for the fieldwork of the project was an added constraint. However, the total number of pupil questionnaires received was 1,579.

Teacher questionnaire

A questionnaire was designed by the research team, the purpose of which was to examine teachers' perspectives on issues in relation to the sex-typing of occupations by primary school pupils. Smithers and Zeintek's study (1991) informed the general questions asked in the teacher questionnaire. The questions focused on the following four themes:

- Teacher training/in-service training
- Awareness of gendered behaviour
- Awareness of occupational stereotyping
- Challenging gendered behaviour/occupational stereotyping.

The questionnaire began with a series of demographic questions regarding Key Stage, sex, years in teaching, type of qualification and training institution attended. It then had twenty-one statements regarding the four themes, and teachers were to respond to each statement by means of a four-point scale, from strongly agree to strongly disagree. There was also the option of responding "don't know" to the statements.

The teachers were also required to place in order from 1 to 5 factors they felt were the most influential in the formulation of occupational stereotypes among children. They were also presented with the eight subjects they teach at primary school and asked to rank them in order (1 to 8) from what boys prefer most to prefer least and from what girls prefer most to prefer least. Space was provided at the end of the questionnaire for teachers to use if they had anything more to add regarding occupational stereotyping among children.

Piloting of the teacher questionnaire was carried out with a class of approximately 40 Masters degree students at Queen's University Belfast, who were all primary school teachers. They were asked to complete the questionnaire and to record details of any problems or issues which they felt might need further investigation in order to improve the questionnaire. The overall response to the pilot of the questionnaire was very positive and no-one expressed concern with the nature of the content. The research team introduced minor changes and the finished product can be viewed in Appendix 2.

Pupil questionnaire
A questionnaire was developed to look primarily at whether Key Stages 1 and 2 boys and girls have internalised notions about occupations being appropriate for a man only, a woman only or both. This response method was used in the Smithers and Zientek's study (1991). The research team designed the section of the pupil questionnaire which dealt with perceptions of occupations. Other research (eg, Francis, 1996 and Kelly, 1989) informed the overall approach, but not the content of the questionnaire. Since the same questionnaire was to be administered to children from both Key Stages 1 and 2, it had to be designed for easy comprehension by the younger pupils. The questionnaire listed twenty-nine occupations from each of the

nine bands used to categorise occupations in the Standard Occupational Classification (Vol 3, 1991). The nine bands can be seen in the following table.

Table 3: List of occupations under nine bands

1 Managers/Administrators	Hotel Manager Bank Manager
2 Professional	Secondary School Teacher Solicitor Accountant Doctor Scientist Primary School Teacher
3 Associate Professional/Technical	Computer Programmer Nurse Fashion Designer Journalist
4 Clerical/Secretarial	Hotel Receptionist Typist Bank Clerk
5 Craft-related	Builder Painter and Decorator Electrician Car Mechanic
6 Personal/Protective	Police Officer Firefighter Chef
7 Sales	Sales Assistant
8 Plant/Machine Operator	Factory Worker Bus Driver Traffic Warden
9 Other	Road Sweeper Cleaner Supermarket Shelf Filler

Piloting of the pupil questionnaire was carried out by a Key Stage 1 teacher and a Key Stage 2 teacher in their classrooms. Each teacher administered the questionnaire to approximately 30 pupils in the class and asked them to complete it on their own. The teachers were asked to keep a record of the questions raised by the pupils during the task and also to detail any issues they themselves had with the questionnaire. After examining the records kept by the two teachers, the research team made a number of alterations to the questionnaire and its delivery, and the finished product of the pupil questionnaire can be seen in Appendix 3.

When the study proper commenced, a member of the research team administered the questionnaire to P3 and P6 classes. The first task of the questionnaire required

pupils to answer questions about themselves and their family and to rank the eight subjects they learned about at school from most favourite to least favourite. The pupils were then presented with an example page, which the researcher helped them through, and then they were presented with the list of occupations. The researcher called out each occupation in turn and asked pupils to record whether they felt it was a job for a 'man', 'woman' or 'both'. This form of words was used for all the occupations in all participating classrooms. If the pupils did not know the occupation then the researcher referred to a list of definitions for each occupation, see Appendix 4.

Focus groups with pupils

Focus groups were conducted with 11 sets of children from six primary schools participating in the study (three Key Stage 1 and eight Key Stage 2). The Key Stage 1 groups included 19 children (9 boys and 10 girls) and the Key Stage 2 groups included 48 children (24 boys and 24 girls). The purpose of focus group discussions is to generate data not obtainable through paper and pencil self-report measures. They provide qualitative information that can illuminate underlying attitudes, opinions and behaviour preferences. The particular objective during the focus group discussions in the present study was to probe pupils' perspectives with regard to how they perceived the nature of the relationship between sex and occupations. The sessions typically lasted 25-30 minutes. The audio recording of each discussion was subsequently transcribed. Key topics covered in the focus groups included:

- The children's choice of occupation when they grow up
- Sources of information about jobs
- Jobs that only men can do and why
- Jobs that only women can do and why
- Playtime activities.

Focus groups with teachers and student teachers

Six focus groups with primary school teachers and student teachers were conducted. The sessions lasted approximately half an hour and were recorded on tape. The purpose of these sessions was again to augment the data provided by the teacher questionnaires. The main issues discussed concerned:

- Teachers' awareness of occupational sex-typing issues
- The extent of their training in taking account of gender in the classroom

- Their awareness of gendered behaviour in the classroom
- The extent to which they see the Northern Ireland Curriculum as an effective bulwark against occupational sex-typing among their pupils

Semi-structured interviews with teacher trainers and field officers

Semi-structured interviews were held with lecturers from two of the three institutions in Northern Ireland which offer degrees in primary education. Each interview was recorded on tape and lasted approximately 45 minutes. Issues discussed during these interviews included:

- The inclusion of gender issues within the teacher training curriculum
- Other equity issues raised within the teacher training programme
- Gender issues raised by students
- The role of the Northern Ireland Curriculum in lessening gender stereotyping
- The role of education in challenging stereotyped views.

Semi-structured interviews were also carried out with field officers from three of the five Education and Library Boards in Northern Ireland. Topics of discussion with those field officers who participated in the research included

- The inclusion of gender equity issues within in-service training courses
- The raising of other equity issues within the in-service programme
- Gender issues raised by teachers
- How stereotypes can be challenged
- The role of education in challenging stereotypes.

Results

Section 1: Primary school children's views of occupations

This section deals with the findings from the pupil questionnaire and focus groups. Children's perceptions of occupations as being for one sex or both sexes are presented, firstly by sex and secondly by Key Stage, with evidence from the focus groups detailed separately. Finally, children's occupational choices are outlined with supplementary findings from the focus groups.

Boys and occupations

The primary school pupils were asked to complete a questionnaire regarding who they think a particular occupation is for, ie, a man, a woman, or both. The graph below details the percentage responses for primary 3 and primary 6 boys. The red bars in the graph indicate the percentage of responses from boys who think that the job is for a man. The green bars indicate the percentage of responses from boys who think the job is for a woman. The blue bars indicate the percentage of responses from boys who think the job is for both. If the response rate for a category (eg, man, woman, both) is 60% or more, then the majority of boys hold a stereotyped view.

Figure 1: Percentage breakdown of primary 3 and primary 6 boys who stated that occupations were for a man, woman or both
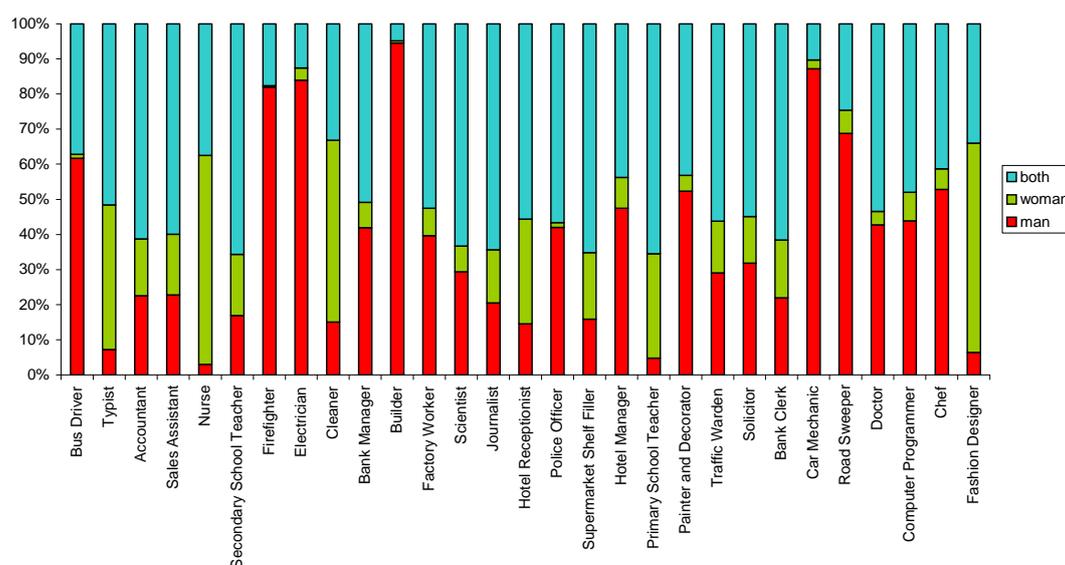
The data on which this figure is based are included in Table 4.

Table 4: Percentage breakdown of primary 3 and primary 6 boys who stated that occupations were for a man, woman or both

Occupations	Man %	Woman %	Both %	N
Bus Driver	62	1	37	788
Typist	7	41	52	789
Accountant	23	16	61	784
Sales Assistant	23	17	60	789
Nurse	3	60	37	793
Secondary School Teacher	17	17	66	788
Firefighter	82	1	17	791
Electrician	84	3	13	788
Cleaner	15	52	33	787
Bank Manager	42	7	51	792
Builder	94	1	5	792
Factory Worker	40	8	52	789
Scientist	29	7	64	782
Journalist	20	15	65	787
Hotel Receptionist	14	30	56	792
Police Officer	42	1	57	792
Supermarket Shelf Filler	16	19	65	788
Hotel Manager	47	9	44	788
Primary School Teacher	5	30	65	786
Painter and Decorator	52	5	43	789
Traffic Warden	29	15	56	793
Solicitor	32	13	55	792
Bank Clerk	22	16	62	790
Car Mechanic	87	2	11	792
Road Sweeper	69	6	25	790
Doctor	43	4	53	788
Computer Programmer	44	8	48	787
Chef	53	6	41	787
Fashion Designer	6	60	34	785

The first thing to notice about the graph is the spread of red and blue that dominates most of the occupations. This shows that the majority of boys think that most of the occupations are either for men only or both sexes, but not for women only. There are two occupations, however, which are exceptions to this trend: these are Nurse and Fashion Designer. The majority of boys in the sample tend to believe that these particular occupations are for women only. Sixty per cent of the boys state that a Nurse is a job for a woman only, the same is true for Fashion Designer.

Six of the twenty-nine occupations are felt by the majority of boys to be for men only. Approximately two thirds of the boys state that Bus Driver and Road Sweeper are jobs for men only and over three-quarters feel that Firefighter, Electrician, Builder and Car Mechanic are jobs for men only.

There are eight occupations which the majority of boys feel are for both sexes. Approximately two thirds of all boys feel that Accountant, Sales Assistant, Secondary School Teacher, Scientist, Journalist, Supermarket Shelf Filler, Primary School Teacher and Bank Clerk are jobs for both men and women, rather than one particular sex.

With regard to the remaining thirteen occupations, there appears to be no majority stereotyped view (ie, a category equals 60% or more) held by the boys.

In summary, the majority (60% or more) of primary school boys in this study do hold stereotyped views towards certain occupations being for a man only and for a woman only. Nearly one third of the occupations put forward in the questionnaire demonstrate that 60% or more of the boys held a stereotyped view.

Girls and occupations

A similar trend is presented in the graph, which shows the percentage of responses from primary 3 and primary 6 girls. Again, if the response rate for a category (eg, man, woman, both) is 60% or more, then the majority of girls hold a stereotyped view

Figure 2: Percentage breakdown of primary 3 and primary 6 girls who stated that occupations were for a man, woman or both
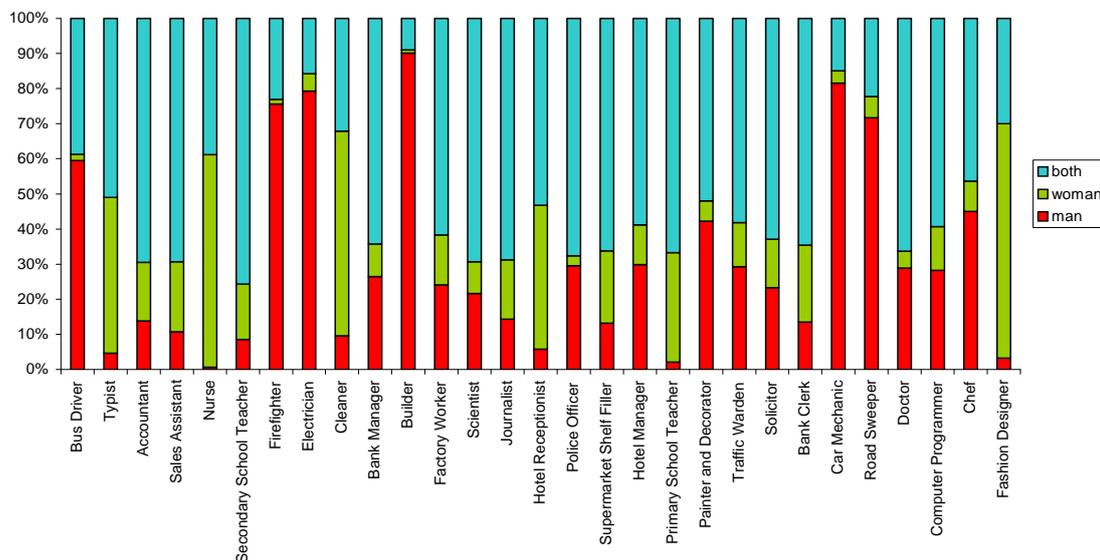
The data on which this figure is based are included in Table 5.

Table 5: Percentage breakdown of primary 3 and primary 6 girls who stated that occupations were for a man, woman or both

Occupations	Man %	Woman %	Both %	N
Bus Driver	60	2	38	776
Typist	5	44	51	775
Accountant	14	16	70	772
Sales Assistant	11	12	69	770
Nurse	1	60	39	774
Secondary School Teacher	8	16	76	777
Firefighter	76	1	23	776
Electrician	79	5	16	772
Cleaner	10	58	32	772
Bank Manager	27	9	64	778
Builder	90	1	9	775
Factory Worker	24	14	62	776
Scientist	22	9	69	776
Journalist	14	17	69	776
Hotel Receptionist	6	41	53	774
Police Officer	29	3	68	773
Supermarket Shelf Filler	13	21	66	768
Hotel Manager	30	11	59	774
Primary School Teacher	2	31	67	770
Painter and Decorator	42	6	52	771
Traffic Warden	29	13	58	778
Solicitor	23	14	63	772
Bank Clerk	13	22	65	771
Car Mechanic	81	4	15	769
Road Sweeper	72	6	22	773
Doctor	29	5	66	777
Computer Programmer	28	13	59	776
Chef	45	9	46	775
Fashion Designer	3	67	30	774

The same two occupations of Nurse and Fashion Designer are held by the majority of girls to be for women only and the same six occupations of Bus Driver, Firefighter, Electrician, Builder, Car Mechanic and Road Sweeper are held by the majority of girls to be for men only. Approximately two thirds of the girls state that there are thirteen occupations which they feel are for both sexes, whereas the same number of boys state eight occupations to be for both sexes. The additional five occupations which approximately two thirds of the girls feel are for both sexes are: Bank Manager; Factory Worker; Police Officer; Solicitor; and Doctor. Just over half of the boys report these five occupations to be for both sexes.

Regarding the remaining eight occupations, there appears to be no majority stereotyped view (ie, a category equals 60% or more) held by the girls.

Since the boys' results are very similar to the girls' results regarding occupations being for one particular sex, it is reasonable to state that the stereotyped views towards occupations appear to be held by primary school children regardless of their sex. However, there is an interesting finding in that approximately two thirds of girls find more of the occupations suitable to both sexes rather than to one sex. This number of girls report an extra five occupations which is an indication that primary school girls do feel that there are more occupations for both, rather than one sex only.

A Builder is the most stereotyped job held by primary school children. Approximately nine out of ten children feel this is a job for a man only. And the least stereotyped job held by primary school children is that of Secondary School Teacher. Approximately seven out of ten children report this is a job for both sexes.

Key Stages 1 & 2 and occupations

As well as looking at the sex of the primary school pupils, it was decided that the research should investigate the differences, if any, between Key Stages 1 and 2 pupils and their responses to whether a job is for a man, a woman, or both. If the response rate for a category (eg, man, woman, both) is 60% or more, then the majority of pupils hold a stereotyped view.

Figure 3: Percentage breakdown of key stage 1 primary school pupils who stated that occupations were for a man, woman or both

Figure 4: Percentage breakdown of key stage 2 primary school pupils who stated that occupations were for a man, woman or both

The data on which these figures are based are included in Tables 6 and 7.

Table 6: Percentage breakdown of Key stage 1 Primary school pupils who stated that occupations were for a man, woman or both

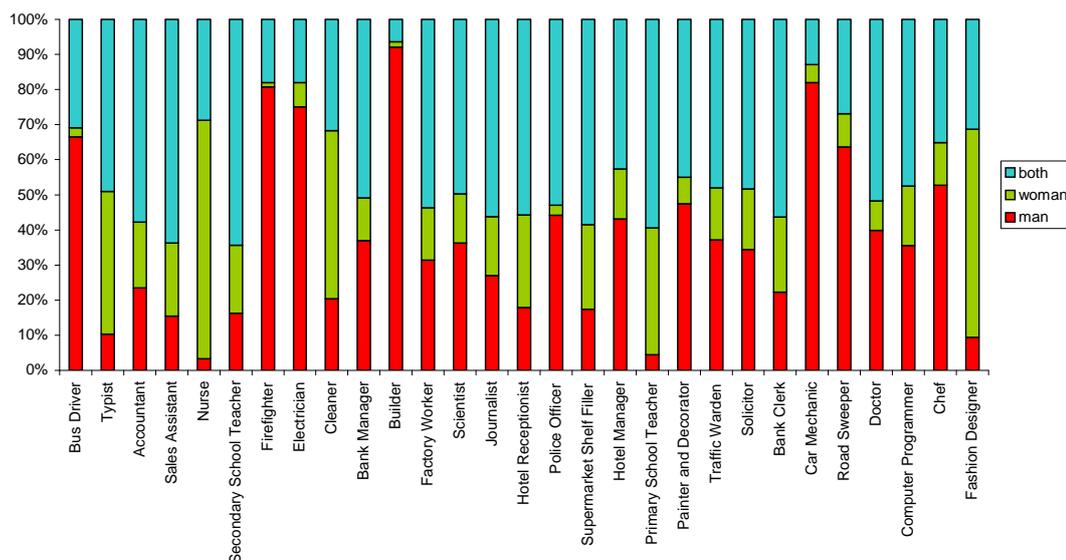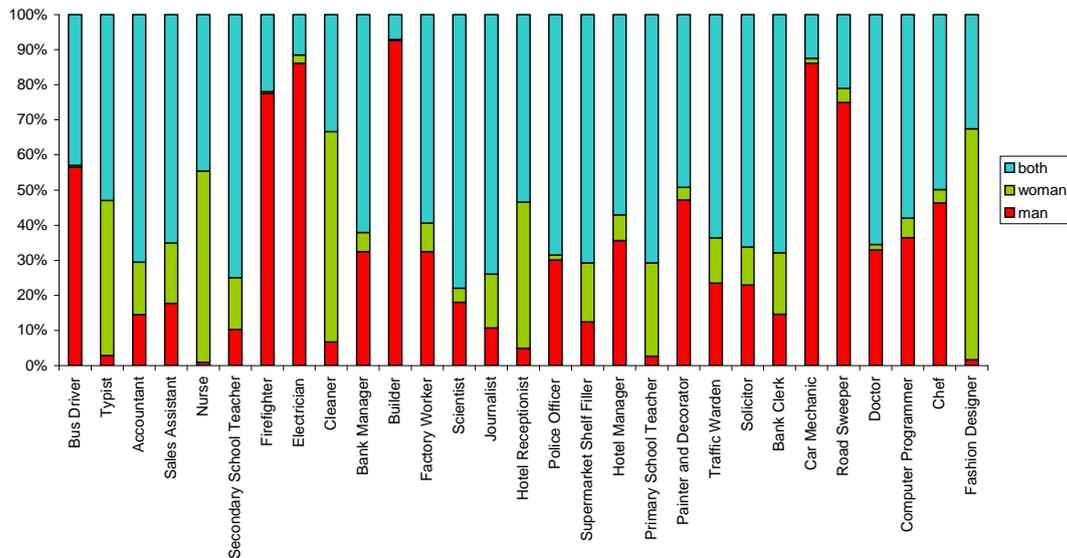| Occupations	Man %	Woman %	Both %	N
Bus Driver	67	2	31	638
Typist	10	41	49	641
Accountant	23	19	58	635
Sales Assistant	15	21	64	634
Nurse	3	68	29	640
Secondary School Teacher	16	19	65	640
Firefighter	81	1	18	643
Electrician	75	7	18	639
Cleaner	20	48	32	637
Bank Manager	37	12	51	644
Builder	91	2	7	641
Factory Worker	31	15	54	641
Scientist	36	14	50	642
Journalist	27	17	56	641
Hotel Receptionist	18	26	56	641
Police Officer	44	3	53	641
Supermarket Shelf Filler	18	24	58	635
Hotel Manager	43	14	43	639
Primary School Teacher	5	36	59	635
Painter and Decorator	47	8	45	640
Traffic Warden	37	15	48	646
Solicitor	35	17	48	643
Bank Clerk	22	22	56	643
Car Mechanic	82	5	13	639
Road Sweeper	64	9	27	640
Doctor	40	8	52	644
Computer Programmer	36	17	47	641
Chef	53	12	35	641
Fashion Designer	10	59	31	638

Table 7: Percentage breakdown of Key Stage 2 primary school pupils who stated that occupations were for a man, woman or both

Occupations	Man %	Woman %	Both %	N
Bus Driver	56	1	43	926
Typist	3	44	53	923
Accountant	14	15	71	921
Sales Assistant	18	17	65	925
Nurse	1	54	45	927
Secondary School Teacher	10	15	75	925
Firefighter	77	1	22	924
Electrician	86	2	12	921
Cleaner	7	60	33	921
Bank Manager	32	6	62	926
Builder	92	1	7	926
Factory Worker	32	8	60	924
Scientist	18	4	78	916
Journalist	11	15	74	922
Hotel Receptionist	5	42	53	925
Police Officer	30	1	69	924
Supermarket Shelf Filler	12	17	71	921
Hotel Manager	36	7	57	923
Primary School Teacher	3	26	71	921
Painter and Decorator	47	4	49	920
Traffic Warden	23	13	64	925
Solicitor	23	11	66	921
Bank Clerk	15	17	68	918
Car Mechanic	86	1	13	922
Road Sweeper	75	4	21	923
Doctor	33	2	65	921
Computer Programmer	36	6	58	922
Chef	46	4	50	921
Fashion Designer	2	66	32	921

Approximately two thirds of Key Stage 1 pupils appear to favour only one of the occupations, as being for a woman only and it is Nurse. The same number of Key Stage 2 pupils, however, appear to favour two of the occupations as being for a woman only - Cleaner and Fashion Designer. Approximately two thirds or more of both Key Stages 1 and 2 pupils report five occupations to be for a man only; these are Firefighter; Electrician; Builder; Car Mechanic; and Road Sweeper, with Key Stage 1 pupils reporting a sixth occupation - Bus Driver. The most interesting finding is that approximately two thirds of Key Stage 2 pupils report thirteen occupations to be for both sexes, rather than just one, and approximately two thirds of Key Stage 1 pupils report only two occupations to be for both sexes. This is a fair indication that Key Stage 2 pupils are less stereotyped than their Key Stage 1 counterparts in relation to occupations being for one sex.

One thing to notice with regard to differences in responses between Key Stages 1 and 2 pupils is for the occupation Scientist. Half of Key Stage 1 pupils feel this is a job for both sexes compared to over three-quarters of Key Stage 2 pupils. Differences within and between gender for each Key Stage were also examined. However, no apparent differences appear between the boys, between the girls or between boys and girls.

Figure 5: Percentage breakdown of key stage 1 primary school boys who stated that occupations were for a man, woman or both
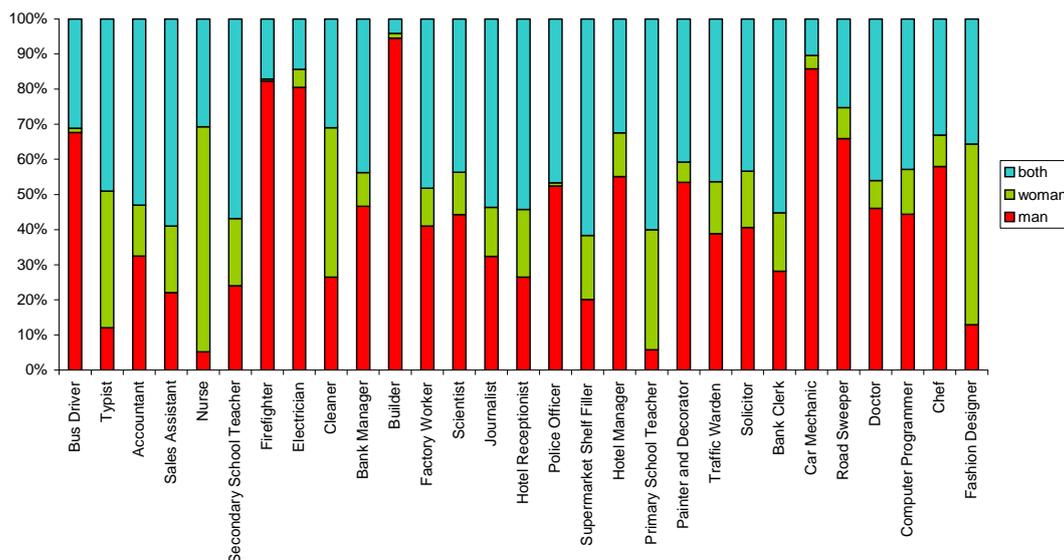
Figure 6: Percentage breakdown of key stage 2 primary school boys who stated that occupations were for a man, woman or both
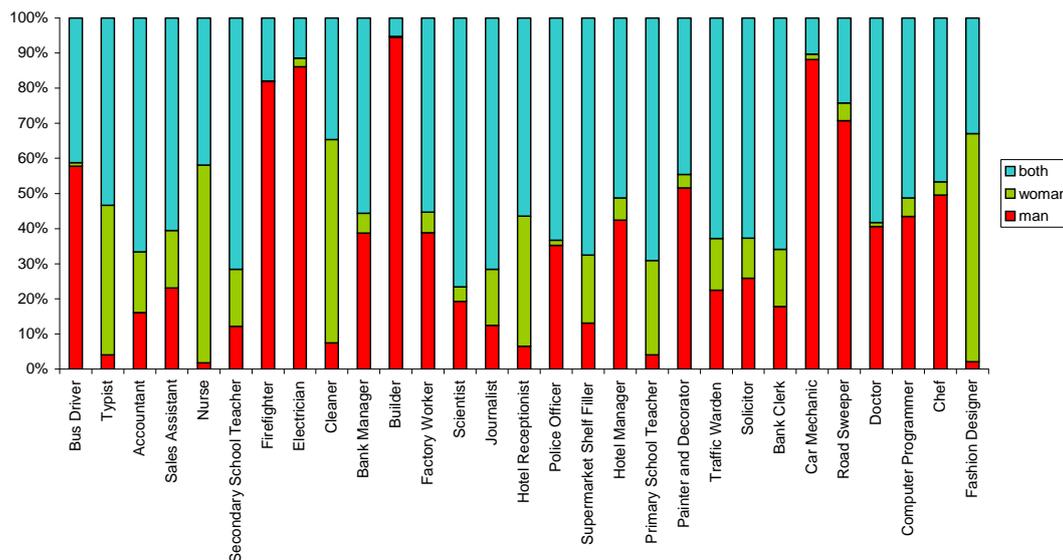
Figure 7: Percentage breakdown of key stage 1 primary school girls who stated that occupations were for a man, woman or both
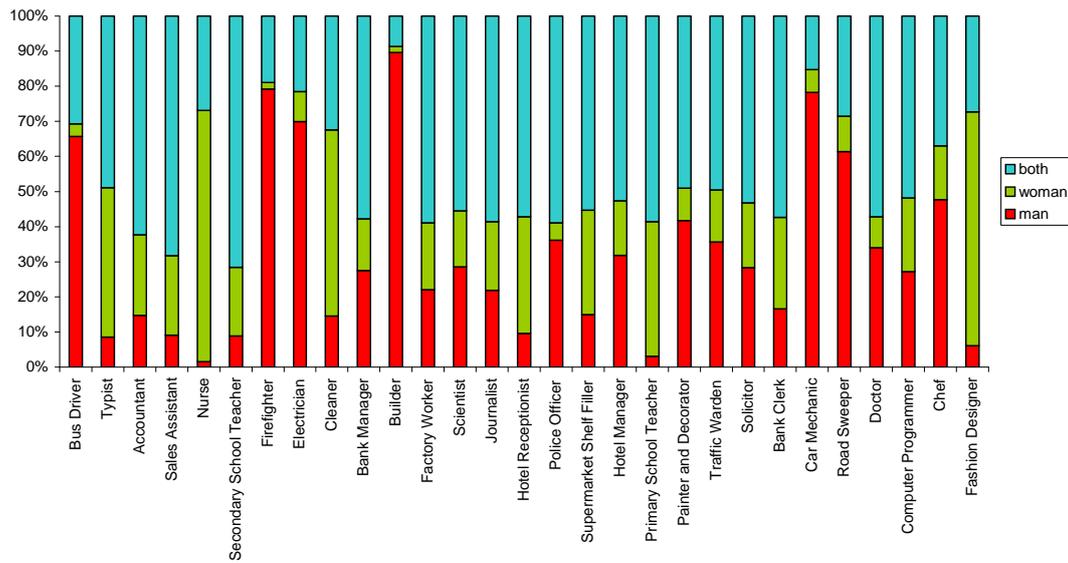
Figure 8: Percentage breakdown of key stage 2 primary school girls who stated that occupations were for a man, woman or both
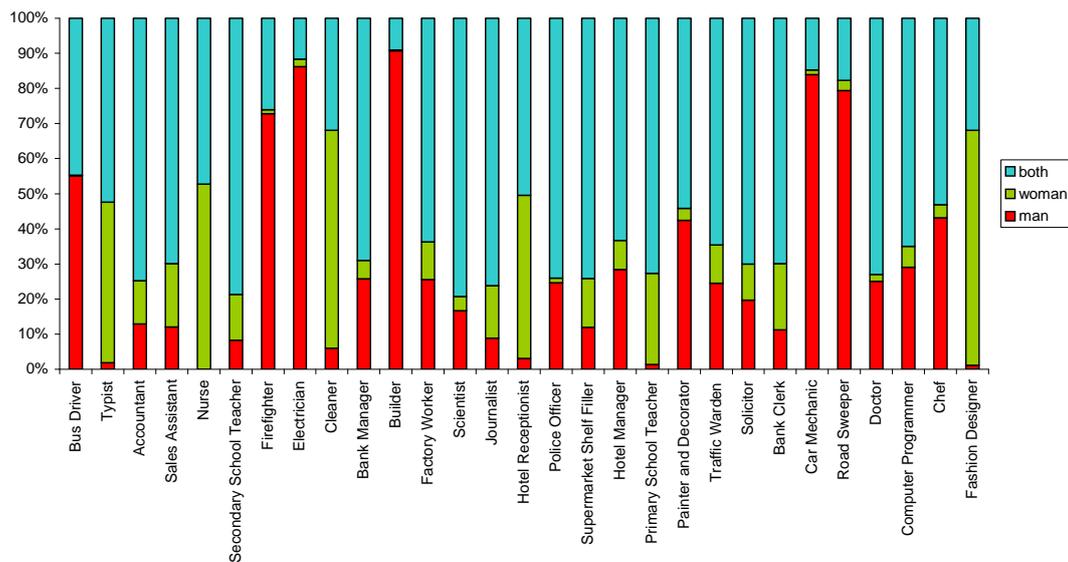
Table 8 below provides details on Key Stages 1 and 2 boys and girls in relation to the occupations that they felt were for both sexes. The main point to notice is that, for the boys, there are only three of the twenty-nine occupations which a higher percentage of Key Stage 1 boys report being for both sexes. For the girls, there are again only three occupations which a higher percentage of Key Stage 1 girls report being for both sexes. This indicates that, for both boys and girls, the older pupils (Key Stage 2) are more inclined to see most of the occupations as being for both men and women.

Table 8: Proportion of pupils assigning occupations to both sexes

Occupations	BOYS			GIRLS		
	KS1 %	KS2 %	Difference	KS1 %	KS2 %	Difference
Bus Driver	31	41	10	31	45	14
Typist	49	53	4	49	52	3
Accountant	53	67	14	61	75	14
Sales Assistant	59	61	2	68	70	2
Nurse	31	42	11	27	47	20
Secondary School Teacher	57	72	15	72	79	7
Firefighter	17	18	1	19	26	7
Electrician	14	11	-3	22	12	-10
Cleaner	31	35	4	32	32	0
Bank Manager	44	56	12	58	69	11
Builder	4	5	1	9	9	0
Factory Worker	48	55	7	59	64	5
Scientist	44	77	33	56	79	23
Journalist	54	72	18	59	76	17
Hotel Receptionist	54	56	2	57	50	-7
Police Officer	47	63	16	59	74	15
Supermarket Shelf Filler	62	68	6	55	74	19
Hotel Manager	32	51	19	53	63	10
Primary School Teacher	60	69	9	59	73	14
Painter and Decorator	41	45	4	49	54	5
Traffic Warden	46	63	17	50	65	15
Solicitor	43	63	20	53	70	17
Bank Clerk	55	66	11	57	70	13
Car Mechanic	10	10	0	15	15	0
Road Sweeper	25	24	-1	28	18	-10
Doctor	46	58	12	57	73	16
Computer Programmer	43	51	8	52	65	13
Chef	33	47	14	37	53	16
Fashion Designer	36	33	-3	27	32	5

Focus groups

The focus groups were conducted separately with P3 and P6 children with equal gender representation in each group. The main purpose was to obtain the views of children at each stage and not to highlight gender differences.

Key Stage 1

The P3 children, in discussing jobs that only men or women can do, cite occupations such as Builder, Footballer, Racing Driver, Car Mechanic and Firefighter for men and Ballerina, Fashion Designer, Hairdresser and Nurse for women. On male occupations, opinions as to why women could not do them are shared by both boys and girls and are mainly related to a perception of women as the weaker sex. Comments include:

Boy: *. . . because women are weaker than men and can't do jobs you need to be strong to do.*

Girl: *Because they are too dangerous.*

Fewer jobs are suggested as being only for women. Comments relating to them again tend to refer to perceptions of gender characteristics. For example:

Boy: *Boys can't dance.*

Girl: *Girls are better at looking after people; men don't do that.*

Examples of shared occupations are fairly wide ranging and reflect children's experience, for example, Farmer, Dentist, Librarian, Traffic Warden, Singer and Teacher. Statements associated with reasons why both men and women could do these jobs refer mainly to shared abilities. For example:

Boy: *Because they are both able to do the job as well.*

Boy: *Because they are jobs that women don't have to lift things or hurt themselves.*

A minority of children (two girls) stresses the importance of choice in the matter of what women can do:

Girl: *I couldn't be a race driver because I am not interested.*

Girl: *Girls can do what they want.*

Key Stage 2

The children provide examples of jobs that they think are only for men or women. These tend to be similar to the range of jobs that the children themselves want to do. For example, typical jobs for women are Nurse, Cleaner, Secretary, Fashion Designer and Childminder, and reflect a strong gender stereotyping. Jobs that only men can do include Builder, Bus Driver, Policeman, Firefighter and Mechanic.

A strong theme emerging from these children concerns their views of male and female characteristics, likes and dislikes and abilities.

Examples of perceptions of female characteristics and how they relate to occupations include:

Girl: *A builder is a dirty job and women don't like getting dirty.*

Boy: *Women do more cleaning – they are more fussy.*

Girl: *I don't think men could be hairdressers because it is more a girl's thing because a girl would be more careful on what to put in the hair. Men would do it really fast.*

There is a strong perception shared by both boys and girls of women being weaker and more fearful. For example:

Girl: *Men are stronger and women would be more scared to go into a fire* (in relation to firefighter).

Boy: *Girls don't like heights.*

Comments often relate to women in secondary roles, views reflected more by the girls than the boys:

Girl: *I think if there were more lady firefighters they would do more work inside and not really go out to the fires but stay in the office in the fire station.*

Girl: *Men are good at leadership and they can be their bosses and stuff.*

Boy: *Ladies would be more the dental assistants because it is mostly the man and the lady assistant.*

There is a strong perception that women are more suitable for jobs that require a kinder, more caring disposition. For example:

Girl: *I think that females are not as strict as males, sometimes that is not true but . . . they are kinder. It would make them ideal for younger children who aren't really used to things* (with reference to teaching).

Girl: *I think that looking after old people would be more of a girl's job because men would be rough with them.*

Perceptions of male characteristics include a strong theme of men as aggressors or able to cope better with aggression, often linked to particular occupations. For example:

Girl: *I think men look rather fierce and they can get really angry and hit you a lot so I think that men make good policemen.*

Boy: *There are more men teachers in secondary schools because it is rougher.*

Girl: *Sometimes the police and firefighters are stronger and braver than women.*

Many comments show that the children form clear perceptions of gendered roles and that these have an influence on job choice. For example:

Girl: (with reference to men not being suitable as child minders) *. . . because the child would be more used to the mother because the father would be out at work so they would be more used to the ladies.*
Boy: *I would not be as good at being a cleaner. It's a girl's thing. Men are out working and the girls stay at home to clean.*

The children show an awareness of the social pressures that can influence the jobs people do. For example, the existence of jobs that are traditionally done by men only or women only can make it difficult for the other sex to enter:
Girl: *Some jobs are more suitable for girls and some more suitable for boys – people might be more used to doing them because they did them a long time ago.*
Boy: *Fireman is something men have been doing for a long time.*

Some opinions reflect parental views of women in jobs, which parents consider unsuitable:

Girl: *My Dad works in the caravans and there is a woman working there too and he doesn't like it because he says women shouldn't be suitable for them things because they have to climb in and out of caravans and fix oil.*
Girl: *There is a woman who works security on Friday and Saturday nights and he works the rest and he is not comfortable with that because he says women shouldn't be doing that – if someone was breaking in they wouldn't be suitable.*

A strong theme, especially for girls, is the influence of choice:
Girl: *I think that girls can be quite fierce when they want to and get dirty if they want to and they can do what they want if they really want to do it; so girls can be car mechanics.*
Girl: *I could do any job because I am a girl, there might not be a problem, I just might not like it.*

Choice of occupation by children at Key Stage 1

Children were asked in the questionnaire what they would like to be when they grow up and the table below shows the most popular occupations among Key Stage 1 boys and girls.

Table 9: Choice of occupation by girls and boys at Key Stage 1

Occupation	Girls (%)	Occupation	Boys (%)
Teacher	24.4	Police	17.6
Vet	13.6	Footballer	13.2
Nurse	13.3	Firefighter	9.7
Hairdresser	12.0	Driver (bus/taxi/train)	4.7
Artist	5.7	Racing Driver	4.3
Singer	4.5	Teacher	3.8
Work in Shop	4.2	Farmer	3.4
Doctor	4.2	Armed Forces	3.4
Police	2.1	Wrestler	3.1
Other	11.2	Builder	2.8
Don't Know	4.8	Other	25.8
Total	332 (100%)	Don't Know	8.2
		Total	319 (100%)

The most popular occupational choice among girls is Teacher with approximately 25% opting for this job, and for boys it is the Police (18%). These findings are similar to Francis (1996). This is followed for girls by Vet 14%, Nurse 13% and Hairdresser 12%, and for boys by Footballer 13% and Firefighter 10%. There is such a wide range of choices put forward by the girls and boys that the table only displays the most popular. For the girls, 11% of their choices go under the term Other which includes a multitude of jobs such as TV Presenter, Writer, Model and Ballerina, as well as other traditionally male-dominated jobs. For the boys, 26% of their choices go under the same term and the multitude of responses include Scientist, Snowboarder, Secret Agent and Mechanic, and again other traditionally male-dominated jobs. Only a small percentage of both girls and boys do not know what they would like to be when they grow up, 5% girls and 8% boys.

Choice of occupation by children at Key Stage 2

The table below presents results on occupational choice from the questionnaire for Key Stage 2 pupils.

Table 10: Choice of occupation by girls and boys at Key Stage 2

Occupation	Girls (%)	Occupation	Boys (%)
Vet	25.4	Footballer	20.7
Teacher	17.4	Police	4.0
Hairdresser	5.8	Racing Driver	4.0
Nurse	4.4	Firefighter	3.8
Doctor	3.9	Doctor	3.8
Singer	3.7	Pilot	3.8
Actress	3.0	Wrestler	3.3
Lawyer	2.6	Armed Forces	3.3
Artist	2.4	Work in Computers	3.3
Other	27.4	Builder	2.9
Don't Know	4.0	Vet	2.9
Total	451 (100%)	Teacher	2.3
		Artist	2.3
		Driver (bus/taxi/train)	2.2
		Other	32.8
		Don't Know	4.6
		Total	477 (100%)

On this occasion the most popular occupational choice among girls is Vet 25%[1], and for boys it is Footballer 21%. These appear to dominate the choices among the girls and boys, apart from Teacher again being a very popular choice among Key Stage 2 girls. Kelly (1989) found the most popular occupations to be Teacher for 11-year-old girls and Athlete for 11-year-old boys. There is a wider range of occupational choices among Key Stage 2 children compared to Key Stage 1, with 27% of choices among girls falling under the term Other and 33% of choices among boys falling under the same category. For girls, the Other category includes jobs such as Counsellor, Beautician, Air Hostess and Receptionist, and for boys, it includes Electrician, Geologist, Civil Engineer and Judge. Only a small percentage of both girls and boys do not know what they would like to be when they grow up, 4% girls and 5% boys.

Focus groups

Most of the children in the focus groups have formed ideas about what they want to do when they grow up and have no hesitation in expressing them. Within the P3 groups the girls choose a narrower range of occupations than the boys do with half of them wanting to be teachers. The boys tend to choose more active jobs, eg, Army, Farmer, Horse Trainer and Racing Driver. At P6 both boys and girls record a

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[1] Previous studies (e.g. Francis, 1996) have categorised Vet as being a 'caring/public service' job and not a science-based job. The evidence from the focus groups in this study indicates that the girls also perceived this occupation as being more caring than scientific.

wide range of occupations with the strongest themes for boys being active (Footballer, Farmer, Racing Driver) and designing (computer games and cars), while the girls' choices are less easily categorised. Their choices cluster in four main areas – teaching, entertainment, caring and creative groups. These findings are fairly similar to the survey results.

The children show an awareness of a number of sources of information about jobs that include observation, TV, reading and verbal sources. The most frequently cited method for finding out about jobs is observation. Examples given by the children include:

Boy: *I watch binmen.*

Boy: *I see men building houses.*

Girl: *You go to visit the zoo.*

Verbal information is also frequently mentioned, for example:

Girl: *I am in a drama class and my teacher was talking about how she became a drama teacher.*

Boy: *My dad told me about this computer engineer and he earns lots of money.*

TV and reading are also popular sources of information.   Some children have direct experience of work, for example, on a farm.

Summary of main findings

- While the majority of occupations presented to children in the questionnaire are perceived as appropriate for both sexes, almost one third of these occupations are viewed as for one sex only.

- These views are in the main held by both boys and girls although girls indicate a wider spread of occupations as being for both sexes rather than one sex only.

- Key Stage 2 children are less likely to hold these stereotyped views than children at Key Stage 1.

- Focus group data tend to confirm the findings from the questionnaire. Children discuss occupations along very stereotyped lines. Many of their comments reflect an acceptance of gendered roles and differences between men and women that translate to occupations.

- Children's choices of occupations are strongly gender biased. Girls' choices cluster in four main areas. Vet, Teacher, Nurse and Hairdresser account for 63% of responses at Key Stage 1 and 53% at Key Stage 2. For boys, Footballer, Firefighter and Police account for 41% of responses at Key Stage 1. For Key Stage 2 boys, the range of choices is much wider but the most popular occupational choice is Footballer.

- The most frequently cited sources of occupational information are observational and verbal.

Section 2: Primary school teachers' awareness of gender issues

The teachers' questionnaire sought information on a number of issues that ranged from perceptions about the factors influencing children's views on occupations to awareness of gender issues in the classroom. In the following section the findings from both survey and focus groups with teachers are presented separately for each topic.

Factors influencing the formation of occupational stereotypes

Both Key Stages 1 and 2 teachers were asked to write down five factors which they believe influence primary school pupils in their formulations of occupational stereotypes. Analysis of data reveals that the majority of teachers (50%) believe Parents to be one of the most influential factors, followed by Home Background (17%), Others (14%), Television (13%), and Family Circle (6%).

Figure 9: The most influential factors which teachers believe form occupational stereotypes among children
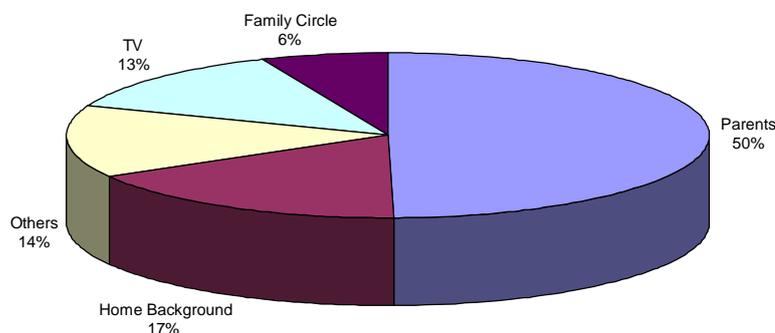
From focus groups with teachers, it is clear that they feel the major influence is the home. Comments include:

Their mother and father . . . at Key Stage 1 children will always, when asked about what occupation they would like to do, follow what their parents do. I think it starts at home.

If there is a strong role model at home, especially for boys . . . they will come in with their gender well and truly defined.

Many of the teachers feel that they can not counteract effectively the influence of home in the formation of children's views:

I don't think we can form their views but we can manipulate how they perceive things and give them a more neutral point of view, but definitely, if they are going home to a very stereotyped scene, it is going to be hard to change that.

Statements

The questionnaire administered to the teachers contained twenty-one statements covering four areas of teaching: Teacher/in-service training (2 statements); Awareness of gendered behaviour (7 statements); Awareness of occupational stereotyping (4 statements); and Challenging gendered behaviour/occupational stereotyping (8 statements). Teachers were required to respond to each statement using a five-point scale: 1=strongly agree; 2=agree; 3=disagree; 4=strongly disagree; and 5=don't know. The following tables examine responses of:

- All primary school teachers
- Gender groups
- Teachers at Key Stages 1 and 2
- Teachers who undertook training pre- and post-1984.

Teacher/in-service training

Table 11 contains the two statements dealing with training. Six out of ten teachers report some form of disagreement regarding gender issues being raised during initial teacher training. Three out of ten agree in some form or other with the statement and one in ten do not know or presumably can not remember. In relation to the second statement, an equal number of teachers are divided in regard to their opinion on in-service courses raising issues dealing with gender in the classroom. There is a definite divide between teachers in relation to the training they received both during their time at university or college and their time in school.

Table 11: Teacher/in-service training

Teacher Training/Inservice Training	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
1. Issues with regard to gender were raised as part of initial teacher training	5.6	27.1	33.8	22.9	10.6
2. In-service courses I have attended have raised issues regard to gender in the classroom	2.5	41.5	40.1	12.7	3.2

Focus groups with teachers confirm that gender issues were not a central theme in initial training. The following comments reflect this:

I don't remember when I was training it being a specific issue.

It was only things that came up incidentally.

I remember vaguely an introductory lecture and it was on cross-curricular themes and there was some mention of equal opportunities in education and how not to be biased in terms of our expectations for children.

Gender issues would have been well down the list of priorities.

Awareness of gendered behaviour
Table 12 displays those statements that deal with teachers' awareness of gendered behaviour. One in four teachers express some form of agreement with boys being more likely than girls to take the lead in group situations and boys enjoying scientific experiments more than girls did. Three out of four teachers feel that girls are more meticulous in the presentation of their work and that boys and girls tend to adopt traditional roles during play situations. The teachers are equally divided in regard to their opinion on girls being less likely to challenge authority than boys. Approximately one in ten teachers feel that girls and boys do not work well together in mixed gender groups and the same number tend to see their classroom containing boys and girls independently, rather than children together.

Table 12: Awareness of gendered behaviour

Awareness of Gendered Behaviour	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
4. In group situations boys are more likely than girls to take the lead	3.2	21.3	65.3	7.4	2.8
7. Girls and boys work well together in mixed gender groups	18.3	73.9	6.3	0.4	1.1
9. Girls are less likely to challenge authority than boys	6.7	41.5	46.5	3.2	2.1
10. Girls are more meticulous in the presentation of their work	18.3	57.4	23.2	0	1.1
11. In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	7	70.5	14	0.4	8.1
14. I see my class as made of children, not boys and girls	31.8	55.1	12	0.7	0.4
17. Boys enjoy scientific experiments more than girls	1.8	20.4	65.1	9.5	3.2

In the focus groups, comments on children's gendered behaviour are associated primarily with playtime activities:

Definitely the boys will radiate to the cars, the blocks, anything where they can run the length and breadth of the classroom.

In the hospital the boys are always the doctors and the girls take second.

From P1 you can actually see from the role playing whenever you set up a house corner, the boys have to be encouraged to go into the house and they would tell you that's boring.

I notice that boys hoard any activities that are practical – they want to be running the show and take all the experiments themselves and the girls are just there to watch and write things up.

The influence of home in affecting children's gender perceptions is again apparent:

I watch them role play (and if say I want you to portray some home exchange, say a girl has come home and she has been caught smoking), one person will take the daddy role and display these fantastic stereotypical characteristics of a daddy and the mother will be supporting the daddy.

Overall, these findings indicate that teachers view gendered behaviour as manifesting itself mainly in play activities. While teachers have clear perceptions of

differences between the sexes, eg, on girls' approaches to presenting material, they are more likely to view the children in a neutral way, to see them as working well together and not to see one sex dominating the other to a great extent.

Awareness of occupational stereotyping

Table 13 presents the statements that examine teachers' awareness of occupational stereotyping. Four out of five teachers feel that the issue of children holding stereotyped views of particular occupations is important and seven out of ten teachers feel that evidence of occupational stereotyping does not loom large in the everyday classroom situation. Seven out of ten teachers find it obvious that children hold stereotyped views of particular occupations. Teachers were divided in their response to the statement on whether children's stereotypes would break down over time. Four out of ten teachers agree with this statement and a similar number disagree.

Table 13: Awareness of occupational stereotyping

Awareness of Occupational Stereotyping	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
6. It is not an important issue whether or not children hold stereotyped views of particular occupations	2.5	15.5	49.5	29.3	3.2
13. Stereotyped views of occupations children hold will break down as they get older regardless of whether or not they are challenged in the classroom	0.7	39.4	41.2	5.3	13.4
15. Evidence of occupational stereotyping looms large in the everyday classroom situation	1.8	18	65.7	5.7	8.8
16. It is obvious to me that children hold stereotyped views of particular occupations	5.3	65.5	22.5	0.7	6

Challenging gendered behaviour/occupational stereotyping

Table 14 displays the breakdown of responses from teachers on statements dealing with challenging gendered behaviour and occupational stereotyping. When asked whether they have to intervene to encourage boys to participate equally in some subjects, six out of ten teachers agree to some extent to doing this at times. When asked the same question in relation to girls, half of the teachers agree in some form or other to having to do it. When teachers are asked if it is their responsibility to challenge traditional gender roles in children, seven out of ten feel it is their responsibility. This is reinforced by eight out of ten teachers who say that they are not helpless in counteracting gender-stereotyped notions that children hold and they actually do challenge stereotyped views of occupations when they arise during class.

However, this optimistic account of challenging gender stereotypes must be read in conjunction with the fact that six out of ten teachers feel that counteracting gender stereotyping is low on their list of priorities in the classroom. When asked whether resources in the classroom are geared well towards challenging stereotyped views of occupations, half the teachers feel this to be true; the other half do not. The final statement refers to how effective the Northern Ireland Curriculum is in challenging stereotyped views of occupations. Four out of ten teachers report that it has no effect whatsoever. Three out of ten feel it has, and the remainder can not decide.

Table 14: Challenging gendered behaviour/occupational stereotyping

Challenging Gendered Behaviour/Occupational Stereotyping	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
3. At times I have to intervene to encourage boys to participate equally in some subjects	11.6	49.4	33	5.6	0.4
5. At times I have to intervene to encourage girls to participate equally in some subjects	5.3	47.9	41.5	4.9	0.4
8. Classroom resources are geared well towards challenging stereotyped views of occupations	2.8	38.2	40.7	2.8	15.5
12. It is the responsibility of teachers to challenge traditional gender roles in children	10.9	58.9	20.7	2.5	7
18. I challenge stereotyped views of occupations when they arise in the classroom	16	69.7	9.3	0.4	4.6
19. An individual teacher is helpless to counteract gender-stereotyped notions that children hold	0.7	15.2	63.6	12.4	8.1
20. Counteracting gender stereotyping is low on my list of priorities in the classroom	7.7	49.4	32.7	4.9	5.3
21. The National Curriculum is effective in challenging stereotyped views of occupations	0.4	31.9	31.9	6.3	29.5

Focus groups

Focus groups with teachers on this issue generated discussion ranging from what stance the school and individual teachers should take in dealing with gender equality and gender equity to practical interventions used in the classroom. In the main, teachers feel that schools and teachers should adopt a neutral approach and provide a neutral environment which promotes gender equality rather than take a proactive stance in tackling gender equity. Typical comments include:

We try to make things as neutral as possible so that it is persons rather than man or woman.

The teacher should never make gender an issue. We need to be completely neutral all the time.

Direct practical methods such as mixing the sexes as much as possible were employed in this respect:

In terms of grouping for science I would put boys and girls together and I would be conscious of having mixed groups for the hands-on practical activities.

Some teachers use more proactive methods to break down stereotyped views:

I would choose books and materials that would appeal to boys and bring in other things like setting up the ironing board and maybe say the boys in our house do the ironing. Tell them stories from home because sometimes the children don't have male role models at home.

Some teachers note the level of children's awareness of gender and equality issues:

When you address/challenge stereotyped behaviour you do get fairly stereotypical responses but if you try and develop discussions they do have a very strong sense of justice and don't like to think they are being treated in any way differently because they are a boy or girl.

Children are very aware of the equal opportunity ethos yet I think they still fall into background roles. I don't know why but they seem to stick pretty strongly to what would be perceived as agreed roles for people.

There is some sense that the promotion of equality has been directed more towards girls than boys. Comments reflecting this perception include:

Sometimes discussions (with the children) have a competitive edge – boys versus girls – with some friendly 'slagging' across the groups, but the children are very much aware of equal opportunities – girls can do the traditional male occupation.

There is a strong awareness among the girls not to be pushed into a particular job because they are girls.

Any interventions that teachers make to challenge stereotyped behaviours and perceptions are to some extent counteracted by subtle and less subtle messages

conveyed to the children. Teachers admit that sometimes they are guilty of the unconscious promotion of gender stereotypes. For example:

I hear teachers saying to the P6 and P7s 'Don't act like a big girl' and I hear myself saying it too.

We have a TV on a trolley and I said I needed two strong boys to give me a hand and this little girl said we women can be strong too.

The school environment itself does not always convey a neutral message:

I think that who they see doing a particular job has an effect . . . if they come into their primary school and there are 20 teachers and 2 of them are men, that subconsciously has an effect.

The teacher with special responsibility for sport in Key Stage 2 would in most cases be a man.

I was at a teachers' conference a few years ago and they were still promoting books with the same format and they have no intention of changing that format and it is still used in an awful lot of schools. It is still very, very stereotyped.

Teachers are also aware that they sometimes have difficulty personally in maintaining a neutral stance. As one female teacher comments:

During the Christmas concert some of the boys didn't want to be wise men because the costume was a dress. I cajoled them into it and I wasn't happy with myself because they weren't happy.

Differences between groups
The data were examined to ascertain if there were any significant relationships between variables, such as sex of teacher, Key Stage level of teacher, duration of service of teacher and the opinions expressed on the statements. The differences reported below are based on a chi-square test (p<.05) which determines whether two variables are related in a population.

Male teachers (82.6%) are more likely than female teachers (73.5%) to believe that girls are more meticulous in the presentation of their work. However, they are less likely to indicate that boys and girls adopt traditional roles in play situations (69.6% of male teachers and 80.1% of female teachers show agreement with this statement).

Table 15: Differences between groups (male & female teachers)

	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
Male Teachers - Girls are more meticulous in the presentation of their work	24.6	58	14.5	0	2.9
Female Teachers - Girls are more meticulous in the presentation of their work	16.3	57.2	26	0	0.5
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
Male Teachers - In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	5.8	63.8	11.6	1.4	17.4
Female Teachers - In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	7.4	72.7	14.8	0	5.1

Key Stage 2 teachers (67.6%) are more likely, compared to Key Stage 1 (53.6%), to show agreement that at times they have to intervene to encourage boys to participate equally in some subjects. Key Stage 1 teachers (84.8%) are more likely, compared to Key Stage 2 (70.9%), to find that boys and girls tend to adopt traditional roles in play situations and that girls and boys work well together in mixed gender groups (97.6% of Key Stage 1 compared to 87.8% of Key Stage 2 teachers).

Table 16: Differences between groups (Key Stage 1 & 2 teachers)

	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
Key Stage 1 Teachers - At times I have to intervene to encourage boys to participate equally in some subjects	9.6	44	40.8	5.6	0
Key Stage 2 Teachers - At times I have to intervene to encourage boys to participate equally in some subjects	13.5	54.1	27	4.7	0.7
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
Key Stage 1 Teachers - In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	9.6	75.2	12.8	0	2.4
Key Stage 2 Teachers - In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	5.4	65.5	14.9	0.7	13.5
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
Key Stage 1 Teachers - Girls and boys work well together in mixed gender groups	20.8	76.8	1.6	0	0.8
Key Stage 2 Teachers - Girls and boys work well together in mixed gender groups	16.3	71.4	10.2	0.7	1.4

Teachers with 15 years or less experience (52.1%) are more likely, compared to those with 16 years or more experience (13.9%), to have had gender issues raised within their initial training. Teachers with 16 years or more experience (29.2%) are more likely, compared to those with 15 years or less experience (17.1%), to state that it is not obvious that children hold stereotyped views of particular occupations.

Table 17: Differences between groups (0-15 years teaching & 16+ years teaching)

	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
0-15 Years Teaching - Issues with regard to gender were raised as part of my initial teacher training	10.7	41.4	28.6	12.9	6.4
16+ Years Teaching - Issues with regard to gender were raised as part of my initial teacher training	0.7	13.2	38.9	32.6	14.6
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Don't Know %
0-15 Years Teaching - It is obvious to me that children hold stereotyped views of particular occupations	7.9	65.7	16.4	0.7	9.3
16+ Years Teaching - It is obvious to me that children hold stereotyped views of particular occupations	2.8	65.2	28.5	0.7	2.8

Most preferred/favourite subject - Key Stage 1

The pupils were given a list of the eight subjects that they learn about at school. Each pupil was required to place in order from 1 (most favourite) to 8 (least favourite) the subjects he/she likes the most by putting a number in a box beside each subject. The teachers were required to rank in order from 1 (prefer most) to 8 (prefer least) the subjects which they feel boys and girls prefer at school.

Pupils found this task problematic to the extent that most Key Stage 1 pupils and some Key Stage 2 pupils were only able to note their top two favourite subjects and their least favourite subject. They had problems with identifying their third, fourth, fifth, sixth and seventh favourite subjects at school. Therefore the tables presented below only show the most favourite (ie, number 1) subject for both boys and girls and the most preferred (ie, number 1) subject which teachers feel boys and girls prefer at school at Key Stages 1 and 2.

Percentages of Key Stage 1 boys and girls rating each subject as their most favourite are presented in Table 18 alongside the percentages of Key Stage 1 teachers who rated each subject as most preferred by both boys and girls.

Table 18: Most preferred/favourite subject from key stage 1 teachers and pupils

(The table columns do not sum to 100, because they are only indicating their number 1 favourite/preference)

Subject	Teachers Boys (%)	Teachers Girls (%)	Pupils Boys (%)	Pupils Girls (%)
English	0.0	35.3	18.3	18.2
Mathematics	19.7	1.7	17.8	10.9
Science	23.5	3.5	10.1	10.6
History	0.9	0.9	13.7	10.4
Geography	0.0	0.9	8.4	7.3
P.E.	50.9	20.0	50.5	46.6
Art	5.2	33.9	31.1	40.3
Music	0.9	4.4	13.5	18.7

Out of all the responses given by teachers as to where they feel English rates on a scale of 1 to 8 for pupils, no teachers rate it as the most preferred subject by boys, whereas 35% rate it as the most preferred subject by girls. For mathematics 20% of teachers rate it as the number one subject for boys and only 2% rate it as the number one subject for girls. Nearly 25% of teachers feel that science is the number one subject preferred by boys, whereas only 4% feel this for girls. PE is the subject which receives the largest number of scores of 1 by teachers for being the most preferred subject by boys. However, for girls, English is the subject which receives the largest number of scores of 1 by teachers as being the most preferred subject.

For the pupils themselves, out of all the responses from boys regarding English, 18% rate it as their most favourite subject, as do 18% of girls. Nearly 20% of boys rate mathematics as their number one subject, with 10% of girls doing the same. 10% of both boys and girls rate science as their most favourite subject. Not surprisingly, the subject which receives the largest amount of scores of 1 (most favourite) for both boys and girls is PE.

There are difficulties associated with comparing teachers' and pupils' responses to these questions (a pupil is giving his/her response on an individual perspective, whereas a teacher is giving his/her response on a group perspective). However, it is interesting that, while the same percentage of Key Stage 1 boys and girls rate English as their favourite subject, none of the Key Stage 1 teachers rate it as the most preferred by boys and a relatively high percentage rate it as the most preferred by girls.

Most preferred/favourite subject - Key Stage 2

Table 19 summarises findings on teachers' perceptions of most preferred subjects for boys and girls and pupils' most favourite subject at Key Stage 2.

Table 19: Most preferred/favourite subject from key stage 2 teachers and pupils

(The table columns do not sum to 100, because they are only indicating their number 1 favourite/preference)

Subject	Teachers Boys (%)	Teachers Girls (%)	Pupils Boys (%)	Pupils Girls (%)
English	0.7	23.1	5.1	8.4
Mathematics	9.8	2.3	14.6	14.9
Science	12.7	3.8	7.8	6.2
History	2.3	1.5	7.0	6.9
Geography	1.5	0.8	3.2	2.4
P.E.	70.9	24.4	41.9	30.4
Art	6.0	44.4	30.5	37.0
Music	0.8	2.3	5.5	12.4

Out of all the responses given by teachers as to where they feel English rates on a scale of 1 to 8 for pupils, less than 1% of teachers feel it to be the most preferred subject for boys, whereas 23% feel it to be the number one choice for girls. Mathematics again does not favour high as the most preferred subject. 10% of teachers feel it to be the number one preference for boys and only 2% for girls. According to the teachers, 13% of them think of science as being the most preferred subject for boys and a much smaller percentage think the same for girls (4%). The subject that the majority of teachers feel as being the most preferred for boys is PE with over 70% opting for it. For girls, it is art with approximately 45% of teachers choosing it.

For the pupils themselves, out of all the responses from boys regarding English, 5% rate it as their most favourite subject, as do 8% of girls. When the boys and girls rate mathematics, 15% of both groups feel it to be their most favourite subject. Only 8% of the boys rate science as their number one choice as do 6% of the girls. The majority of boys (42%) opt for PE as their most favourite subject and the majority of girls (37%) opt for art as their most favourite subject.

These results suggest that many of these teachers hold traditional stereotyped views of girls preferring English and boys preferring mathematics and science. Murphy

and Elwood (1998) point to the influence that in-school activity can have on the formulation of children's perceptions of what constitutes 'boy' and 'girl' domains. They also highlight the link between teachers' expectations of pupils and their academic achievements. There is some concern, therefore, that teachers' perceptions of children's preferences at an early age may have consequences that feed into attainments in particular subjects up to GCSE level. These differential attainments have further implications for A-level choices and ultimately constrain occupational choices.

Summary of Main Findings

- The raising of gender issues is not a central theme in teacher training although teachers with 15 years or less experience are more likely to report that they had been raised within initial training. Gender issues were also more likely to be raised in in-service training.

- Most teachers accept that children do hold stereotyped views of occupations and that this is an important issue. However, fewer feel that this topic loomed large in the classroom situation. Respondents are divided as to whether or not stereotyped views are likely to break down with or without challenge.

- The majority of teachers (70%) feel that they should challenge traditional gendered roles and an equal number agree that they do. However, a significant proportion (60%) indicates that counteracting gender stereotyping is low on their list of priorities. A significant minority (40%) feel that the Northern Ireland Curriculum has no effect in challenging children's stereotyped views.

- Focus groups with teachers reveal that most adopt a neutral stance in providing an environment that promotes gender equality rather than taking a proactive approach that encourages gender equity.

- Teachers in focus groups also report that, while children are aware of an "equality ethos", they tend to revert to traditional gender roles and views. There is some indication that the promotion of an equality agenda has been directed more towards girls than boys.

- Practical interventions designed to challenge stereotyped views are often counteracted by subtle and less subtle messages conveyed to children in the school environment. These include the prevalence of female teachers in primary schools, especially for younger children, and the unconscious promotion of gendered stereotypes by teaching and other staff.

- The most influential factors in the formulation of children's occupational stereotypes are perceived as parents, the home background and TV. Many teachers, in discussion, indicate that it is difficult to counteract effectively the influence of home in the formulation of children's views.

- Teachers regard English, mathematics and science as being preferred more by one sex than the other. These views reflect a traditional view of girls preferring English and boys preferring mathematics and science.

Section 3: Teacher trainers' and field officers' views on gender issues

The interviews with teacher trainers and Education & Library Board (ELB) officers involved in in-service training highlight a number of important issues relating to the project. However, the number of interviews conducted was small and the views expressed cannot be considered as representative of either the training institutions or Education and Library Boards. The main findings are summarised as follows:

- Gender issues are addressed, but not directly, within initial and in-service training programmes. Emphasis is placed on gender differences in learning styles, the use of gender neutral language and the promotion of equality of opportunity within the Northern Ireland Curriculum. However, it is apparent that there is no institutional policy, either in training colleges or Education and Library Boards, on how equity issues in general should be addressed within the programmes.

- Gender issues are raised by students and teachers undergoing in-service training but the sense is that they are not of primary concern. It is thought unlikely that teachers will attend a specific course on gender equity issues. One field officer comments:

  I don't think they would realise the importance of it. I think you would have to do a fair bit of awareness raising. If you actually said you were running a course on gender equity issues people would say 'that's fine, that has nothing to do with us, that's for schools that have those problems. The lack of awareness may be down to training.

- Interviewees stress the importance of teacher training in raising students' awareness of equity issues. As one teacher trainer remarks:

  The role of teacher training is to sensitise teachers to the issue of equality. Education has a big responsibility to translate the ideals of respect and mutuality and equality into a curriculum that will challenge the stereotypes of society.

- The inherent tension between challenging stereotypes within an environment that presents a stereotyped picture of teaching is raised by both teacher trainers and

field officers. The lack of male teachers in primary schools is viewed as a major problem. This is highlighted by one teacher trainer as follows:

If you get a man at Key Stage 1, he is usually in P4. There are historical reasons or them not being there because up until recently a man could not teach in a P1 class. Now that has changed but what men fall victim to with regard to this is child protection, which is such an issue at the minute with a lot of principals. They are not as concerned with women teachers being alone with children but they are concerned about their male teachers being alone.

- There is a shared view that the Northern Ireland Curriculum has not clearly addressed gender equity. As one field officer states:

The Northern Ireland Curriculum has brought in a more structured approach and increased planning . . . whether it has made a difference to boys' and girls' views, I don't think it has. Schools are now having to look at how they bring up all learners and I am not certain of where schools are in terms of equal opportunities.

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Appendix 1

Sampling Frame and Specification of Responses to Teacher and Pupil Questionnaires

	Sampling Frame				Schools Generating Teacher Questionnaires				Schools Generating Pupil Questionnaires			
Sector/Size	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**
Controlled	176	231	47	454	30	45	10	85	3	9	3	15
Maintained	158	193	43	394	18	28	6	52	1	5	2	8
Integrated	6	19	1	26	1	5	1	7	0	1	1	2
Total	340	443	91	874	49	78	17	144	4	15	6	25
As % of Sector	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**
Controlled	38.8%	50.9%	10.4%	100%	35.3%	52.9%	11.8%	100%	20.0%	60.0%	20.0%	100%
Maintained	40.1%	49.0%	10.9%	100%	34.6%	53.8%	11.5%	100%	12.5%	62.5%	25.0%	100%
Integrated	23.1%	73.1%	3.8%	100%	14.3%	71.4%	14.3%	100%	0.0%	50.0%	50.0%	100%
Total	38.9%	50.7%	10.4%	100%	34.0%	54.2%	11.8%	100%	16.0%	60.0%	24.0%	100%
As % of Size Cohort	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**	Small	Medium	Large	**Total**
Controlled	51.8%	52.1%	51.6%	51.9%	61.2%	57.7%	58.8%	59.0%	75.0%	60.0%	50.0%	60.0%
Maintained	46.5%	43.6%	47.3%	45.1%*	36.7%	35.9%	35.3%	36.1%*	25.0%	33.3%	33.3%	32.0%*
Integrated	1.8%	4.3%	1.1%	3.0%	2.0%	6.4%	5.9%	4.9%	0.0%	6.7%	16.7%	8.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

*Although maintained schools account for 45.1% of all schools in the sampling frame, they account for 36.1% of the schools generating teacher questionnaires and 32% of schools generating pupil questionnaires. The sampling frame was designed to reflect the breakdown of school type across Northern Ireland, and while the responses from the maintained sector are lower then might be expected, it is unlikely to have any significant effect on the outcome of the results presented in the report, as school type was not investigated as a variable in the present study.

Teacher Questionnaire

This questionnaire is part of a study looking at issues regarding gender and schooling in Northern Ireland. The project is being carried out in the Graduate School of Education at the Queen's University of Belfast, and is funded by the Equal Opportunities Commission for Northern Ireland. All the responses will be treated as confidential.

Are you a teacher at:	Key Stage 1 ❑　　　　Key Stage 2 ❑　　　　Both ❑	

Sex:　　　　　　　Male ❑　　　　　　Female ❑

Years in teaching profession:

Type of teaching qualification:　BEd ❑　　PGCE ❑　Teaching Certificate ❑　BA (Hons) in Ed ❑

Teacher training institution attended:

Please read the following statements about gender and schooling. Based on how you feel about each item circle the appropriate number from 1 to 4. For example, if you strongly agree with an item, circle 1, if you agree with an item, circle 2, etc. Circle D/K for 'don't know'.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
1. Issues with regard to gender were raised as part of my initial teacher training	1	2	3	4	D/K
2. In-service courses I have attended have raised issues with regard to gender in the classroom	1	2	3	4	D/K
3. At times I have to intervene to encourage boys to participate equally	1	2	3	4	D/K
4. In group situations boys are more likely than girls to take the lead	1	2	3	4	D/K
5. At times I have to intervene to encourage girls to	1	2	3	4	D/K

		Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
	participate equally in some subjects					
6.	It is not an important issue whether or not children hold stereotyped views of particular occupations	1	2	3	4	D/K
7.	Girls and boys work well together in mixed gender groups	1	2	3	4	D/K
8.	Classroom resources are geared well towards challenging stereotyped views of occupations	1	2	3	4	D/K
9.	Girls are less likely to challenge authority than boys	1	2	3	4	D/K
10.	Girls are more meticulous in the presentation of their work	1	2	3	4	D/K
11.	In play situations, boys and girls tend to adopt traditional roles (for example, girls are homemakers, boys are fire-fighters)	1	2	3	4	D/K
12.	It is the responsibility of teachers to challenge traditional gender roles in children	1	2	3	4	D/K
13.	Stereotyped views of occupations children hold will break down as they get older regardless of whether or not they are challenged in the classroom	1	2	3	4	D/K
14.	I see my class as made of children, not boys and girls	1	2	3	4	D/K
15.	Evidence of occupational stereotyping looms large in the everyday classroom situation	1	2	3	4	D/K
16.	It is obvious to me that children hold stereotyped views of particular occupations	1	2	3	4	D/K
17.	Boys enjoy scientific experiments more than girls	1	2	3	4	D/K
18.	I challenge stereotyped views of occupations when they arise in the classroom	1	2	3	4	D/K
19.	An individual teacher is helpless to counteract gender-stereotyped notions that children hold	1	2	3	4	D/K
20.	Counteracting gender stereotyping is low on my list of priorities in the classroom	1	2	3	4	D/K
21.	The National Curriculum is effective in challenging	1	2	3	4	D/K

stereotyped views of occupations

Rank in order from 1 to 5 the agents you feel are the most influential factors in the formulation of occupational stereotypes among the children you teach.

1. ....

2. ....

3. ....

4. ....

5. ....

Rank in order from 1 to 8 the subjects which you feel boys and girls prefer. A ranking of '1' indicates the subject you feel they prefer most and '8' indicating the subject they prefer least.

Subject	Boys	Girls
English		
Mathematics		
Science and technology		
History		
Geography		
Physical education		
Art and design		
Music		

If there are any issues with regard to occupational stereotyping among children that you would like to comment on further, please do so below.

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Please place the completed questionnaire in the freepost envelope provided and return to the Graduate School of Education

Thank you for your help

Appendix 3 Pupil Questionnaire   **PIN:** _ _ _ _

Boy   Girl   Age:_____

How many brothers do you have?_____

How many sisters do you have?_____

My Daddy's job is:_____

My Mummy's job is:_____

When I grow up I would like to be a:_____

Below is a list of the eight subjects which you learn about at school. Place in order from 1 to 8 the subjects you like the most by putting a number in the box beside each subject (1=most favourite, 8=least favourite).

English   ☐

Mathematics   ☐

Science ☐

History ☐

Geography ☐

P.E. ☐

Art ☐

Music ☐

Which of the following jobs do you think is for a man, woman or both?

For example:

If you think Dentist is a job for **MAN** then draw a circle around the picture of **MAN**

MAN   WOMAN   BOTH

Do the following example:

Dentist

	MAN	WOMAN	BOTH
1. Bus Driver			
2. Typist			
3. Accountant			
4. Sales Assistant			
5. Nurse			

	MAN	WOMAN	BOTH
6. Secondary School Teacher			
7. Firefighter			
8. Electrician			
9. Cleaner			
10. Bank Manager			

	MAN	WOMAN	BOTH
11. Builder			
12. Factory Worker			
13. Scientist			
14. Journalist			
15. Hotel Receptionist			

	MAN	WOMAN	BOTH
16. Police Officer			
17. Supermarket Shelf Filler			
18. Hotel Manager			
19. Primary School Teacher			
20. Painter and Decorator			

	MAN	WOMAN	BOTH
21. Traffic Warden			
22. Solicitor			
23. Bank Clerk			
24. Car Mechanic			
25. Road Sweeper			

	MAN	WOMAN	BOTH
26. Doctor			
27. Computer Programmer			
28. Chef			
29. Fashion Designer			

Appendix 4   Job Descriptions for Pupil Questionnaire

1. **Bus Driver:** A person who drives a bus with passengers along the roads.

2. **Typist:** A person who types copies of written documents using a typewriter or word processor.

3. **Accountant:** A person who helps people to look after their money and keeps a record of what they are paid and what they spend.

4. **Sales Assistant:** A person who sells things to people in shops.

5. **Nurse:** A person who looks after sick people in hospitals and nursing homes.

6. **Secondary School Teacher:** A person who teaches older children aged 11-16 years old.

7. **Firefighter:** A person who controls and puts out fires.

8. **Electrician:** A person who fixes televisions and other machines that use electricity.

9. **Cleaner:** A person who cleans floors and toilets in buildings.

10. **Bank Manager:** A person who runs a bank and tells people working in a bank what to do.

11. **Builder:** a person who works with bricks and materials to build houses and other buildings.

12. **Factory Worker:** A person who helps to make things in a factory.

13. **Scientist:** A person who carries out experiments and finds cures for diseases.

14. **Journalist:** A person who writes stories for newspapers and magazines.

15. **Hotel Receptionist:** A person who welcomes and helps guests in a hotel.

16. **Police Officer:** A person who prevents crime and keeps the peace in your town.

17. **Supermarket Shelf Filler:** A person who puts food and groceries on a shelf in a supermarket.

18. **Hotel Manager:** A person who is in charge of a hotel.

19. **Primary School Teacher:** A person who teaches children who are 4-11 years old.

20. **Painter and Decorator:** A person who paints and puts wallpaper onto walls in your house.

21. **Traffic Warden:** A person who puts tickets on cars if they are parked in the wrong place.

22. **Solicitor:** A person who gives legal advice on how to go to court and when buying a house.

23. **Bank Clerk:** A person who counts the money that is put into or taken out of the bank.

24. **Car Mechanic:** A person who fixes cars.

25. **Road Sweeper:** A person who keeps the roads clean.

26. **Doctor:** A person who helps sick people to get well.

27. **Computer Programmer:** A person who works with computers.

28. **Chef:** A person who cooks food in hotels and restaurants.

29. **Fashion Designer:** A person who thinks up new ideas for clothes, shoes and bags.