
GENDER AND EDUCATION

(AND EMPLOYMENT)

Gendered imperatives and their implications for women and men

lessons from research for policy makers

An independent report submitted to the European Commission
by the NESSE networks of experts



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This is an independent report commissioned by the European Commission's Directorate-General for Education and Culture. The views expressed are those of independent experts and do not necessarily reflect the official position of the European Commission.

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FOREWORD



After decades of attention to gender matters in the EU, there are important achievements. Across European schools and universities there is much greater awareness of gender equality as an educational issue than there was in the past. Women have greatly increased their levels of attainment in education, surpassing men in their rates of attainment in public examinations in many countries. In addition, women's participation and achievements in traditionally male-defined subjects have been significantly enhanced.

However, gender inequalities still remain in European education systems in terms of subject preferences and performance, and in qualitative aspects of the education and training experience.

This independent expert report is a review of international research evidence on the relationship between gender and education. It focuses especially on the Lisbon objectives and EU benchmarks. It provides a critical, empirically and theoretically-informed analysis of how gendered identities relate to educational processes and outcomes. It summarizes existing research and outlines the policy lessons and measures that are shown to contribute to greater equality between women and men, boys and girls in education.

The research reviewed in this report addresses such burning questions as:

- *How are gender inequalities created and reproduced within and around contemporary schools, in employment and in wider society?*
- *Why do boys drop out of school more often than girls?*
- *Why do girls and young women not identify with mathematics, science and technology subjects and related careers?*
- *What makes reading relatively unattractive to boys, especially working class boys and boys from particular minority backgrounds?*
- *How does gender interface with immigration in creating inequalities in education?*
- *What role do parents and peers play in determining the gendered outcomes of education?*
- *How to challenge gendered choices and inequalities in education (and employment)?*

The overarching message of this report is that **equality does not happen by accident**. The research reviewed suggests that education policy makers should ensure that gender equality is a real rather than a rhetorical priority and that change is substantively resourced in teacher education and in school practices.

The publication of this report is part of our ongoing commitment to promoting gender equality in European schools and societies. A complementary report on gender and educational attainment will be published by Eurydice in November 2009. Also in November, a conference on gender and educational attainment organised by the Swedish Presidency of the European Union will bring together many of the key actors with the aim to providing an improved basis for further European policy cooperation in this field.

Brussels, July 2009



Odile Quintin
Director-General
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CONTENTS

Foreword	3
At a glance	7
En bref	9
Im Überblick	11
Main Messages and Policy Recommendations	13
Principaux Messages et Recommandations Politiques	17
Kernaussagen und Empfehlungen für die Politik	23
Introduction: Gender Equality and Education in Europe	29
Chapter 1: Gendered Performances and Preferences in Education – The EU benchmarks	33
EU Benchmark - Performance in Mathematics, Science and Technology	
Mathematics, science and technology	34
The culture of subjects and professions	35
Gender and engineering	36
Gender closure	36
Challenging gendered subject cultures	37
Parents and peers	37
EU Benchmark – Performance in school-age literacy	39
EU Benchmark- Gender and Early School Leaving	41
Historical context	41
Current context	42
Country variations	42
Reasons for early school leaving	43
School culture: issues of racism, disablism, homophobia, classism	43
Satisfaction with school	44
Bullying and sexual harassment	45
The relevance of school	46
Gender and early school leaving	47
EU Benchmark -Employability – tertiary education, training, paid work, care	
Gender, qualifications and work	49
Women and work.....	50
The gendered division of care work	50

Chapter 2:	The Gendered Culture of Education	53
	Conceptions of gender equality	54
	Gender hegemony.....	56
	Conservatism amongst teachers	56
	Gender identity – enactment and reproduction in education	57
	Masculinities	58
	Male peer pressure	58
	Male learner identity.....	59
	Femininities	59
	Female learner identity	60
	Gender identity, social class and ethnicity.....	62
	Gender implications of tracking and assessment.....	63
	Gender, immigration and beliefs.....	65
	Gender imbalance in teaching staff	66
	Levels of critical thinking about gender in teacher education	68
	Teachers, gender and care	69
	Teacher gender and sexuality	70
	Teaching, learning and gender	70
	The growing marketisation of education: gender Implications	71
Chapter 3:	Conclusions and Policy Recommendations	73
References	85
Annex 1:	Gender and decision making	103
	Figure 1: Gender and decision making in the EU	103
	Figure 2: Gender and Ministerial positions in EU member states	103
	Figure 3: Gender of the Prime Ministers in the EU member states	104
	Figure 4: Gender and Parliament and National Presidents	104
Annex 2:	Tables	
	Table 1: Progress towards meeting the five benchmarks for 2010	105
	Table 2: EU Country performance progress in each benchmark area, 2000-2006	106
	Table 3: Canadian Council of Ministers of Education, PCAP-13 07/08	107
	Table 4: EU Early school leavers by gender, 2000 and 2007	107
	Table 5: Gender and early school leaving	108
	Table 6: Gender and high educational attainment of working age population (15-64), 2007	108
	Table 7: Educational attainment of young men and women 2007	109
	Table 8: Third level graduates by discipline and gender.....	109
	Table 9: Proportions of men and women in a typical academic career, students and academic staff, in science and engineering EU-25, 1999-2003	110
	Table 10: Proportion of women in the EU-25 for total employment, tertiary educated and employed Human Resources in Science and Technology Core (HRSTC) and scientists & engineers in 2004, growth rates for men and women, 1998-2004	110

AT A GLANCE

1. Gender inequalities persist in education in terms of subject preferences and performance, and in cultural aspects of the education and training experience.
2. Social class, ethnicity and minority statuses compound gender differences and inequalities in attainment. Consequently, gender policymakers should not treat women and men, girls and boys as homogenous groups in policy terms.
3. Boys from working class backgrounds in all ethnic groups and minority groups are the most likely to have literacy difficulties and to leave school early.
4. An EU Action Plan needs to be developed to address declining literacy levels among socially disadvantaged groups, especially in the context of increased migration.
5. Mathematics, Science and Technology (MST) courses are predominantly male in profile and courses with a care bias are disproportionately female. Both cultural and organisational factors contribute to these gendered choices.
6. A Transfer of Knowledge programme for disseminating knowledge of effective methodologies for enhancing women's participation and success in MST programmes should be developed across the Community.
7. Care work needs to be resourced and promoted as valuable work for men as well as women.
8. The influence of peers, family and teachers in making subject choices is highly significant.
9. The attitudes of teachers and teacher educators are important in facilitating change. Comprehensive equality training (including gender) should be introduced for pre-service and in-service teachers. Also, methods of evaluating teachers' and schools' performance in this area should be designed and implemented.
10. Changing the attitudes of parents and peers is crucial for challenging gender stereotypes. Adult and Community education programmes, including those involving new media, need to be resourced in all countries to counter sex stereotyped views of subjects and occupations in the wider public.
11. Pedagogical practice from pre-school across the education and training fields, exhibits gendered expectations of learners.
12. Gender education needs to be a core element of school programmes and teachers need to be educated on how to teach gender issues.

13. All training and professional courses should have a compulsory module on gender equality.
14. Disseminating learning from good practice on gender equality in education across all Member States is important.
15. All schools and colleges should be required to have equality policies with specific gender equality goals. These policies need to be monitored by independent bodies.
16. Gender inequalities are evident in the exercise of authority and power as men hold a disproportionately high number of senior (and higher paying) posts at all levels of education.
17. Girls and women need to have positive female role models in senior positions in schools and colleges.
18. Gender inequalities in the doing of unpaid caring are having a major impact on the promotion of women in all sectors of the economy including education, particularly in higher education.
19. The gendered character of both paid and unpaid care work also frames girls' and boys' educational and occupational expectations predisposing girls' towards caring occupations and boys' to avoid both paid and unpaid caring.
20. Gender inequality is difficult to understand and to challenge in isolation from other cultural, political, economic and affective injustices. It is perhaps in this wider equality and social justice context that gender can most usefully be addressed.
21. The more equal societies are in economic and social terms, the greater the likelihood there is of having gender equality in education.
22. Education policy makers should ensure gender equality is a real rather than a rhetorical priority and that change is substantively resourced in teacher education and in school practices.

EN BREF

1. Les inégalités entre les genres persistent dans l'éducation en termes de choix de matières et de résultats, ainsi que dans certains aspects culturels de l'éducation et de la formation.
2. La classe sociale, les statuts ethniques et minoritaires génèrent des différences entre les sexes et des inégalités au niveau des résultats obtenus. Par conséquent, les responsables politiques concernés ne devraient pas traiter les femmes et les hommes, les filles et les garçons comme des groupes homogènes en termes de politiques.
3. Quel que soit le groupe ethnique ou la minorité auquel ils appartiennent, les garçons issus des classes ouvrières sont les plus susceptibles d'avoir des difficultés d'alphabétisation et de quitter l'école tôt.
4. Il est nécessaire que l'UE élabore un plan d'action afin de lutter contre l'aggravation de l'illettrisme au sein des groupes socialement désavantagés, en particulier dans un contexte de migrations accrue.
5. Le profil des cursus de mathématiques, science et technologie (MST) est principalement masculin, tandis que celui des cursus orientés sanitaire et social est démesurément féminin. Cette différence de profil entre cursus est due notamment à des facteurs à la fois culturels et organisationnels.
6. Un programme de transfert de savoir doit être développé au sein de la Communauté pour la diffusion des connaissances en matière de méthodologies efficaces visant à augmenter la participation et la réussite des femmes dans les cursus MST.
7. Les carrières sanitaires et sociales doivent être redéfinies et promues en tant qu'activité valorisante aussi bien pour les hommes que pour les femmes.
8. L'influence des pairs, de la famille et des enseignants dans le choix des matières étudiées et des carrières est cruciale.
9. L'attitude des enseignants et des éducateurs est très importante pour faciliter le changement. Il faudrait introduire une large formation à l'égalité (incluant les genres) à l'attention des futurs enseignants et des enseignants en poste. Il faudrait également concevoir et mettre en œuvre des méthodes d'évaluation des enseignants et de la performance des écoles dans ce domaine.
10. Changer l'attitude des parents et des pairs est essentiel pour vaincre les stéréotypes hommes/femmes. Dans tous les pays, il est nécessaire de financer des programmes de formation destinés aux adultes et à la communauté, y compris ceux impliquant les nouveaux médias et supports, afin de combattre, dans le grand public, les stéréotypes concernant les filières et des carrières.

11. Depuis l'école maternelle, la pratique pédagogique dans l'enseignement et la formation montre les différences d'attentes en fonction du sexe de l'apprenant.
12. L'éducation au genre doit être au cœur des programmes scolaires et les enseignants doivent être formés aux méthodes d'enseignement des problématiques associées.
13. Tous les cursus de formation et professionnels doivent comporter un module obligatoire sur l'égalité hommes/femmes.
14. Il est important de diffuser l'apprentissage de bonnes pratiques sur l'égalité hommes/femmes dans l'éducation au sein de tous les États membres.
15. Toutes les écoles et universités devraient être tenues de mettre en place des politiques d'égalité hommes/femmes avec des objectifs bien définis. Ces politiques doivent faire l'objet d'un suivi par des organismes indépendants.
16. Les inégalités entre les sexes sont particulièrement évidentes dans les fonctions impliquant l'exercice d'une autorité ou d'un pouvoir : les hommes sont plus que majoritaires aux postes de direction (bénéficiant d'un salaire supérieur) à tous les niveaux d'éducation.
17. Filles et femmes ont besoin de modèles féminins positifs occupant des fonctions senior au sein des écoles et des universités.
18. Les inégalités hommes/femmes dans la provision non rémunérée de soins et d'assistance ont un impact majeur sur la promotion des femmes dans tous les secteurs de l'économie incluant l'éducation, particulièrement l'éducation supérieure.
19. Le caractère marqué, au niveau des sexes, des activités de provision d'assistance et de soin, payées ou non, forge également les attentes et représentations des filles et des garçons en matière d'éducation et de carrière : les filles sont prédisposées aux carrières sanitaires et sociales, tandis que les garçons évitent ce type d'activité, rémunérée ou non.
20. L'inégalité des sexes est difficile à comprendre et à affronter si on l'isole des autres injustices culturelles, politiques, économiques et affectives. C'est peut-être dans un contexte d'égalité et de justice sociale que la problématique de l'inégalité hommes/femmes peut être abordée de façon efficace.
21. Plus une société est égale en termes économiques et sociaux, plus la probabilité d'égalité hommes/femmes dans l'éducation est élevée.
22. En matière d'éducation, les responsables politiques doivent s'assurer que l'égalité hommes/femmes est une priorité réelle et non rhétorique, et que l'évolution de la formation des enseignants et des pratiques scolaires bénéficie du financement adéquat.

IM ÜBERBLICK

1. Im Bildungswesen existieren nach wie vor Ungleichheiten zwischen den Geschlechtern in Bezug auf Vorlieben bei der Fächerwahl und die Leistung sowie in kultureller Hinsicht bei der Lernerfahrung von Jungen und Mädchen.
2. Die Zugehörigkeit zu bestimmten sozialen Schichten, ethnischen Gruppen und Minderheiten verschlimmert geschlechtsspezifische Unterschiede und Ungleichheiten in der Leistung. Aus diesem Grund sollten Frauen und Männer, Mädchen und Jungen bei politischen Entscheidungen nicht als homogene Gruppen angesehen werden.
3. Jungen aus Arbeiterfamilien aller ethnischen Gruppen und Minderheiten haben am meisten Probleme beim Schreiben und Lesen und brechen die Schule am häufigsten vorzeitig ab.
4. Es ist dringend erforderlich, einen EU-Aktionsplan zu entwickeln, um die Analphabetenquote bei sozial benachteiligten Gruppen zu verringern, insbesondere vor dem Hintergrund erhöhter Migration.
5. Fächer in den Bereichen Mathematik, Naturwissenschaften und Technologie (Mathematics, Science and Technology - MST) werden überwiegend von Jungen besucht und Kurse mit pflegerischem Hintergrund weisen einen überproportional hohen Anteil an Mädchen auf. Sowohl kulturelle als auch organisatorische Faktoren spielen bei dieser geschlechtsspezifischen Wahl eine Rolle.
6. Die Gemeinschaft sollte gemeinsam ein Wissenstransferprogramm entwickeln, um die Verbreitung effektiver Lehrmethoden für eine höhere Beteiligung und bessere Erfolgsaussichten von Frauen in MST-Fächern zu fördern.
7. Pflegerische Berufe müssen mit höheren Mitteln ausgestattet werden und als wertvolle Aufgabe für Männer und Frauen gefördert werden.
8. Der Einfluss von Freunden, Familienangehörigen und Lehrern bei der Fächerwahl ist erheblich.
9. Das Verhalten von Lehrern und Professoren ist wichtig, um den Wandel zu erleichtern. Umfassende Gleichberechtigungsschulungen (einschließlich der Geschlechter-Problematik) sollten für Lehrer in der Ausbildung und im Schuldienst eingeführt werden. Zusätzlich sollten Bewertungsmethoden entworfen und umgesetzt werden, um die Leistung der Lehrer und Schulen auf diesem Gebiet beurteilen zu können.
10. Veränderungen im Verhalten von Eltern und Freunden sind wichtig, um Rollenklischees abzubauen. Bildungsprogramme für Erwachsene und die Gemeinschaft, einschließlich Programme in den neuen Medien, müssen in allen Ländern neu definiert werden, um geschlechterspezifische Klischeevorstellungen bei der Fächer- und Berufswahl bei einer breiten Öffentlichkeit zu bekämpfen.

11. Die pädagogische Praxis von der Vorschule bis hin zur schulischen und beruflichen Bildung zeigt geschlechterbezogene Erwartungen der Lernenden.
12. Geschlechtssensible Pädagogik muss wichtiger Bestandteil von Schulprogrammen sein und Lehrer müssen ausgebildet werden, wie geschlechtsbezogene Themen vermittelt werden können.
13. Alle Weiterbildungskurse sollten Geschlechtergleichheit als Pflichtmodul enthalten.
14. Die gemeinschaftsübergreifende Verbreitung von Lehren aus guten Beispielen über Geschlechtergleichheit in der Bildung ist wichtig.
15. Alle Schulen und Hochschulen sollten verpflichtend Gleichheitspolitiken mit speziellen geschlechterbezogenen Zielen einführen. Die Einhaltung dieser Politiken sollte von einer unabhängigen Institution überwacht werden.
16. Geschlechterbezogene Ungleichheiten bei der Ausübung von Berufen mit Autorität und Entscheidungsmacht sind offensichtlich; Männer haben einen überproportional hohen Anteil in leitenden (und besser bezahlten) Stellen in allen Bereichen der Bildung und Erziehung.
17. Mädchen und Frauen brauchen positive Vorbilder von Frauen in leitenden Positionen in Schulen und Hochschulen.
18. Geschlechterspezifische Ungleichheiten bei der Ausübung unbezahlter Fürsorgetätigkeiten haben große Auswirkungen auf die Förderung von Frauen in allen Wirtschaftsbereichen, darunter auch das Bildungswesen, insbesondere die höhere Bildung.
19. Die geschlechterbezogene Wahrnehmung von bezahlten und unbezahlten Fürsorgetätigkeiten beeinflusst die Erwartungen der Mädchen und Jungen im Bildungswesen sowie dem späteren Erwerbsleben. Mädchen tendieren dadurch stärker zu pflegerischen Berufen und Jungen dazu, sowohl bezahlte als auch unbezahlte Fürsorgetätigkeiten zu vermeiden.
20. Geschlechterspezifische Ungleichheiten isoliert von anderen kulturellen, politischen, wirtschaftlichen und emotionalen Ungerechtigkeiten zu verstehen und zu beheben ist schwierig. Das Problem der Gleichberechtigung der Geschlechter sollte in diesen breiteren Kontext der Gleichberechtigung und sozialen Gerechtigkeit eingebettet werden, um effektive Maßnahmen ergreifen zu können.
21. Umso gerechter die wirtschaftlichen und sozialen Verhältnisse in einem Land sind, umso größer ist die Wahrscheinlichkeit, dass die Gleichberechtigung der Geschlechter im Bildungswesen gewährleistet ist.
22. Politische Entscheidungsträger im Bildungswesen sollten sicherstellen, dass die Gleichberechtigung der Geschlechter eine echte und nicht nur eine rhetorische Priorität darstellt und Maßnahmen für den Wandel bei der Lehrerbildung und dem Schulalltag erheblich vorangetrieben werden.

MAIN MESSAGES AND POLICY RECOMMENDATIONS

1. Gender is a socially constructed and intersectional identity: it always intersects with social class, ethnicity, religion, culture, disability, sexuality, age, and care status (i.e. whether one is a carer or not). **Policy implications and recommendation:** Gender equality policies in education need to take account of social class, ethnic, cultural and other status differences *within* gender groups.
2. Gendered identities are dynamic and contested. They are created and recreated anew in group settings, including educational settings. **Policy implications and recommendation:** Education itself offers real opportunities to challenge gender stereotypes. Education about gender equality needs to be mainstreamed in all school and college programmes. Teachers need to be educated on the methodologies of teaching gender issues, both within subjects and across fields.
3. Education has the potential to play a key role in gender formation and change. **Policy implications and recommendation:** Schools, and further and higher education institutions, should be required to have equality policies that are regularly monitored and publicly appraised. There should be some sanctions for not implementing stated policies, and for not supplying accurate and on-time data for equality appraisals.
4. Despite progress towards the Lisbon benchmarks, gender differences and inequalities persist in education in terms of subject preferences and performance, and in qualitative aspects of the education and training experience. These gender gaps vary across the EU-27 where averages can conceal a range of extremes.
5. There is a slight average performance gap in the EU in favour of boys and men in mathematics, science and technology (MST) although in some countries this gap no longer exists and women outperform men in the sciences in many countries. **Policy implications and recommendation:** Programmes designed to actively encourage women into MST are effective, especially where specific supports remain in place, both at entry level and throughout the degree/diploma programmes.
6. There is considerable evidence that there is a masculinised culture in MST courses in further and higher education, and within related occupations. This discourages many women from specialising in these fields. The lack of welcome for women (and at times the open rejection of them) in fields, such as mathematics, engineering, construction and technology, is a disincentive for women to enter these occupations; lack of academic or technical skills is

not the major reason women do not pursue MST careers. **Policy implications and recommendation:** Changing cultures is a slow process. Making a module on issues such as *Gender and Engineering*, *Gender and Mathematics* and *Gender and Science* a compulsory part of all degree, diploma and training programmes for all students would be very helpful.

7. Boys' performance in literacy is significantly lower than that of girls and literacy standards in general are falling throughout the EU. Boys are also more likely to leave school early. It is boys from working class backgrounds in all ethnic groups and minority groups who are the most likely to have literacy difficulties and to leave school early. **Policy implications and recommendation:** The alienation of boys (and girls in many cases) from low income and ethnic minority backgrounds from education is what needs to be systematically addressed in policy terms.
8. Good teaching does not discriminate. **Policy implications and recommendation:** High quality public education is important for students who come from social backgrounds or gender groups that are not traditionally high achievers in a given field. Raising standards of education and levels of expectation, *combined with supports and care for students*, will produce higher attainments and expectations among girls and boys in non-traditional fields of study.
9. Men are under-represented in arts, humanities and in all areas of work that have a care-related dimension, including nursing, primary school teaching and child care. Even when men do enter care areas they are disproportionately employed in management and other non-care roles. **Policy implications and recommendation:** There needs to be research and teaching in higher education on Men and Masculinities, aligned with studies of Women and Femininities, that addresses the deeply-held stereotypes constraining men and women in occupational and life choices.
10. Women in Europe remain disadvantaged in terms of pay, promotion, job stability and status, pensions and quality of life. Gender inequalities in the doing of care work contribute significantly to this. **Policy implications and recommendation:** Equality in the doing of love and care work is fundamental to gender equality, including gender equality in education.
11. Both subjects and occupations have symbolic identities that are gendered. Consequently, many parents and peers see boys as "naturally" interested in the sciences and girls as pre-disposed to the arts. **Policy implications and recommendation:** Changing the culture of subjects and professions is a slow process but educating about gender is a key to change. All subjects should do

gender analysis and professional and training courses should offer a compulsory gender equality module.

12. There is little attention given to gender equality in pre-service and in-service education in many countries. Neither are teachers evaluated on the degree to which their learning relationships contribute to gender change or social justice. **Policy implications and recommendation:** Teachers and trainers need to be educated systematically on both the theory and practice of gender equality in education. Evaluation of teaching practice should include evaluation of equality practices for pre-service teachers (including lecturers in higher education). Schools and colleges should be evaluated in terms of their gender equality outcomes on a systematic basis.
13. The growing marketisation and commercialisation of education, particularly of higher education, has important gender implications. The highly competitive, macho culture which marketisation promotes discourages women from occupying senior managerial posts and from advancing to senior research and academic positions. The 24/7 culture of work that marketisation promotes is often premised on the assumption that one is not a primary carer, and this really disadvantages women. **Policy implications and recommendation:** There is a need to research the impact of the marketisation and commercialisation on the career opportunities for women, and carers throughout the education sector.
14. Parents and peers play a crucial role in framing subject preferences and job/career preferences. Changing the attitudes of parents and peers is as crucial for challenging gender stereotypes as is changing the attitudes of teachers. **Policy implications and recommendation:** There needs to be a more imaginative and systematic use of adult education and new media technology to promote gender equality among parents and the wider public.
15. The gendered character of different fields of study and occupations operate as anticipatory forms of socialisation that influence young girls' and boys' subject and job/career choices. **Policy implications and recommendation:** Education itself is a tool for challenging subject stereotypes. This involves making the theme of gender equality a core module on compulsory courses and mainstreaming critical thinking about gender matters across all subjects.

16. New thinking and research about gender is not being resourced in any systematic way. Most subjects are gender-blind in their presentation. ***Policy implications and recommendation:*** Critical feminist and equality disciplines that challenge stereotypical notions of gender, and how these interface with race, ethnicity, disability, class etc., must be systematically resourced if major cultural shifts in gender equality thinking are to occur. An understanding of gender equality has to be systematically promoted if it is to develop.

General Recommendations related to 1-16 above:

17. Disseminating learning from good practice on gender equality in education across all Member States should be a policy priority.
18. The promotion of gender equality in education needs to be a key strategic objective in the development of a new Roadmap for Equality between Women and Men in Europe.
19. Policy makers should ensure gender equality is a real rather than a rhetorical priority, and that change is substantively resourced in teacher education and in school practices.
20. Promoting gender equality involves challenging the equation of masculinity with dominance and being care-free and femininity with responsibility for caring. Supporting educational and research programmes to change stereotypes is essential.
21. Gender equality for women is not simply about getting them to adhere to male norms of attainment; it also involves valorising the work that women do, including care work, and educating boys and men, as well as women and girls to be carers.
22. More equal societies and schools have fewer gender discrepancies in education and training. ***Policy implications and recommendation:*** Promoting economic and social equality throughout society will enhance gender equality in education.

PRINCIPAUX MESSAGES ET RECOMMANDATIONS POLITIQUES

1. Le sexe est une identité intersectionnelle construite socialement: il y a toujours intersection avec la classe sociale, l'appartenance à une minorité ethnique, la religion, la culture, un éventuel handicap, la sexualité, l'âge et la provision ou non de soins aux proches. **Implications et recommandations politiques:** les politiques d'égalité hommes/femmes dans l'éducation doivent prendre en compte la classe sociale, l'appartenance ethnique, la culture et d'autres différences de statut *au sein* des groupes d'hommes/de femmes..
2. Les identités hommes/femmes sont dynamiques et contestées. Elles se créent et évoluent en fonction des paramètres de groupe, y compris au niveau de l'éducation. **Implications et recommandations politiques:** l'éducation en elle-même fournit de réelles opportunités de combattre les stéréotypes hommes/femmes. La formation sur l'égalité hommes/femmes doit être intégrée dans le programme de toutes les écoles et universités. Les enseignants doivent être formés sur les méthodologies d'enseignement de ces problématiques, au sein de chaque matière comme en liaison avec d'autres.
3. L'éducation peut jouer un rôle clé dans la formation sur les problématiques hommes/femmes et les changements associés. **Implications et recommandations politiques:** les écoles, tout comme les lycées et les universités, doivent être tenues de mettre en place des politiques d'égalité devant faire l'objet d'un suivi régulier et d'une évaluation publique. Des sanctions devraient également être prises à l'encontre de ceux qui ne mettent pas en œuvre les politiques affirmées et qui ne fournissent pas dans les délais des données précises destinées à l'évaluation de l'égalité.
4. En dépit des progrès réalisés en direction objectifs de référence de Lisbonne, les différences et inégalités entre hommes et femmes dans le domaine de l'éducation persistent en termes de choix de matières et de résultats, ainsi que sur certains aspects qualitatifs de l'éducation et de la formation. Ces différences varient d'un pays à l'autre au sein de l'Union européenne, et les moyennes peuvent masquer des valeurs extrêmes.
5. Il existe une légère différence de performance moyenne au sein de l'UE en faveur des garçons/hommes dans les mathématiques, sciences et technologies (MST) bien que, dans certains pays, cette différence ait été gommée et qu'elle joue en faveur des femmes dans de nombreux pays. **Implications et recommandations politiques:** les programmes conçus pour encourager activement les femmes dans les cursus MST sont efficaces, en particulier

lorsque des soutiens spécifiques restent en place aussi bien au cours de la première année que tout au long du cursus diplômant.

6. Les indices témoignant d'une culture masculinisée au sein des cursus MST sont accablants aussi bien en formation continue que dans l'enseignement supérieur et dans les professions liées à ces domaines. Cet aspect décourage de nombreuses femmes de se spécialiser dans ces domaines. Ce manque d'accueil des femmes (parfois même leur rejet ouvert) dans des domaines comme les mathématiques, l'ingénierie, le bâtiment et la technologie, est un facteur dissuasif dans leur choix de carrière ; l'absence de formation universitaire et de compétences techniques n'est pas la principale raison pour laquelle les femmes délaissent les carrières MST. **Implications et recommandations politiques:** changer les cultures est un processus lent. Élaborer un module sur des thèmes comme *Inégalités hommes/femmes dans l'ingénierie*, *Inégalités hommes/femmes dans les mathématiques* ou encore *Inégalités hommes/femmes dans les sciences* et le rendre obligatoire dans l'ensemble des cursus de formation *pour tous les étudiants* serait d'une aide précieuse.
7. Les performances des garçons pour la lecture et l'écriture sont inférieures de beaucoup à celles des filles, et le niveau des repères généraux en la matière est en baisse dans toute l'Union européenne. Les garçons sont également plus susceptibles de quitter l'école tôt. Quel que soit le groupe ethnique ou la minorité auquel ils appartiennent, ce sont les garçons issus de la classe ouvrière qui sont les plus susceptibles de présenter des difficultés pour lire et écrire et de quitter l'école tôt. **Implications et recommandations politiques:** l'abandon précoce de l'école par les garçons (et les filles dans de nombreux cas) dont le revenu du foyer est faible et qui appartiennent à une minorité ethnique est ce sur quoi les politiques doivent se concentrer systématiquement.
8. Un bon enseignement est un enseignement non discriminant. **Implications et recommandations politiques:** il est important de prodiguer une éducation publique de grande qualité pour les étudiants venant de milieux sociaux ou de groupes pour lesquels, dans un domaine donné, les performances sont en général peu élevées. Une augmentation des normes d'éducation et des niveaux d'attentes, *associée au soutien et aux soins aux étudiants*, va conduire à plus de réussite et des attentes plus élevées chez les filles et garçons dans des domaines d'étude sortant du schéma traditionnel.

9. Les hommes sont sous-représentés dans les arts, les sciences humaines et tous les domaines d'activité touchant à l'assistance et aux soins, y compris les métiers d'infirmier, d'instituteur des écoles primaires et la puériculture. Même lorsque les hommes optent pour une telle carrière, ils occupent des fonctions de cadre ou autres non directement liés aux soins et à l'assistance. **Implications et recommandations politiques:** il faut faire des recherches et de l'enseignement, dans l'éducation supérieure, sur les hommes et la masculinité, ainsi que des études sur les femmes et la féminité, qui interpellent les stéréotypes profondément ancrés contraignant les hommes et les femmes au niveau des choix professionnels et des choix de vie.
10. Les femmes en Europe restent désavantagées en termes de rémunération, de promotion, de stabilité de l'emploi, de statut, de retraite et de qualité de vie. Les inégalités entre les sexes au niveau de l'accomplissement d'activités d'assistance et de soins aux proches y contribuent de façon significative. **Implications et recommandations politiques:** l'égalité dans la provision de soins et d'amour aux proches est le fondement de l'égalité hommes/femmes, y compris dans l'éducation.
11. Les matières comme les carrières possèdent une identité symbolique qui n'est pas neutre. Par conséquent, beaucoup de parents et de pairs considèrent que les garçons sont « naturellement » intéressés par les sciences et que les filles sont prédisposées aux arts. **Implications et recommandations politiques:** changer la culture des sujets et des professions est un processus lent, mais le fait d'éduquer au niveau des sexes est une des clés du changement. Toutes les matières doivent comprendre l'analyse des problématiques hommes/femmes et les cursus professionnels et de formation doivent proposer un module obligatoire traitant de l'égalité hommes/femmes.
12. L'égalité hommes/femmes fait l'objet de peu d'attention dans la formation initiale et continue des enseignants. En outre, ils ne sont pas évalués par rapport au degré dans lequel leurs rapports à l'enseignement contribuent au changement entre les sexes et à la justice sociale. **Implications et recommandations politiques:** les enseignants et les formateurs devraient être formés systématiquement, tant au niveau de la théorie que de la pratique, à l'égalité entre les sexes dans l'éducation. L'évaluation de la pratique d'enseignement devrait inclure l'évaluation des pratiques d'égalité pour les futurs enseignants (y compris dans l'enseignement supérieur). Les écoles et les universités devaient être évaluées de façon systématique en termes de leurs résultats au niveau de l'égalité entre les sexes.

13. Le passage à une logique de marché et la commercialisation croissante de l'éducation, notamment de la formation supérieure, a des implications importantes au niveau des sexes. La culture macho hautement compétitive que promeut le passage à une logique de marché décourage les femmes d'occuper des postes de direction générale et des postes académiques. La culture du travail 24h/24 et 7j/7 que le passage à la logique de marché promeut présuppose souvent que l'on ne soit pas un fournisseur d'assistance et de soins primaire, et cela désavantage vraiment les femmes. **Implications et recommandations politiques:** il est nécessaire de faire des recherches quant à l'impact du passage à une logique du marché et la commercialisation sur les opportunités de carrière pour les femmes, et des fournisseurs d'assistance et de soins à travers l'ensemble du secteur éducatif.
14. Les parents et les pairs jouent un rôle crucial dans l'élaboration des préférences de sujets de prédilection et de choix de métier/de carrière. Changer l'attitude des parents et des pairs est tout autant essentiel pour vaincre les stéréotypes hommes/femmes que changer celle des enseignants. **Implications et recommandations politiques:** il faut qu'il y ait un usage plus imaginatif et systématique de l'éducation des adultes et des nouvelles technologies de médias pour promouvoir l'égalité entre les sexes parmi les parents et le grand public.
15. Le caractère masculin ou féminin des différentes matières et carrières agissent comme des formes anticipatoires de socialisation qui influencent les choix d'études et de carrière/d'emploi des jeunes gens. **Implications et recommandations politiques:** l'éducation en elle-même est un outil pour combattre ces stéréotypes. Ceci implique de faire du thème de l'égalité hommes/femmes un module obligatoire au sein des cursus et de le placer au cœur de la réflexion sur les problématiques associées dans toutes les matières.
16. Le développement de réflexions nouvelles et de recherches au niveau des sexes n'a pas été encouragé de façon systématique. La plupart des matières ne tiennent pas compte de cette problématique dans leur présentation. **Implications et recommandations politiques:** les disciplines féministes et égalitaires importantes qui combattent les stéréotypes hommes/femmes, et comment ces derniers interagissent avec l'appartenance ethnique, un éventuel handicap, la classe sociale, etc., doivent bénéficier d'un financement systématique en cas de changement culturel majeur de la pensée sur l'égalité hommes/femmes. Si l'on souhaite qu'elle se développe, la compréhension de l'égalité hommes/femmes doit être systématiquement encouragée.

17. La diffusion de l'apprentissage de bonnes pratiques sur l'égalité hommes/femmes dans l'éducation doit être une priorité de politique au sein de tous les États membres.
18. La promotion de l'égalité hommes/femmes dans l'éducation doit constituer un objectif stratégique clé dans le développement d'une nouvelle Feuille de route pour l'égalité entre les femmes et les hommes en Europe.
19. Les responsables politiques doivent s'assurer que l'égalité hommes/femmes est une priorité réelle et non rhétorique, et que l'évolution de la formation des enseignants et des pratiques scolaires bénéficie du financement adéquat.
20. La promotion de l'égalité hommes/femmes implique de remettre en question l'équation de la masculinité avec l'autorité et la non-provision de soins, et de la féminité avec la prise en charge des soins et d'assistance. Il est essentiel de soutenir des programmes d'éducation et de recherche pour changer ces stéréotypes
21. Pour les femmes, l'égalité hommes/femmes ne signifie pas simplement atteindre les mêmes normes de réussite que les hommes ; il s'agit également de valoriser leur travail, notamment la provision d'assistance et de soins aux proches, et d'éduquer garçons et hommes tout autant que filles et femmes à la provision de soins et d'assistance.
22. Les sociétés et écoles où l'égalité est plus prononcée présentent moins de différences hommes/femmes en matière d'éducation et de formation.
Implications et recommandations politiques: encourager l'égalité économique et sociale dans la société va permettre d'améliorer l'égalité hommes/femmes dans l'éducation.

KERNAUSSAGEN UND EMPFEHLUNGEN FÜR DIE POLITIK

1. Die geschlechterspezifische Wahrnehmung beruht auf dem gesellschaftlichen Umfeld und tangiert viele Bereiche: die Zugehörigkeit zu bestimmten sozialen Schichten oder ethnischen Gruppen, die Religion, die Kultur, Behinderungen, Sexualität, Alter und Fürsorgestatus (d.h. ob man sich im Sozialwesen engagiert oder nicht) spielen in diesem Zusammenhang eine große Rolle. **Politische Relevanz und Empfehlung:** Politische Maßnahmen zur Gleichbehandlung der Geschlechter sollten deshalb die verschiedenen sozialen Schichten, ethnischen Gruppen, Kulturen und andere Unterschiede *innerhalb* der geschlechterspezifischen Gruppen berücksichtigen.
2. Geschlechterspezifische Identitäten sind dynamisch und unterliegen ständigem Wandel. Sie werden geschaffen und in verschiedenen Gruppenkonstellationen neu gestaltet, auch im Bildungsumfeld. **Politische Relevanz und Empfehlung:** Die Bildung selbst bietet echte Gelegenheiten, um geschlechterspezifische Rollenklischees abzubauen. Bildungsprogramme über Gleichberechtigung der Geschlechter müssen in alle Schul- und Hochschulprogramme integriert werden. Lehrer müssen Methoden an die Hand bekommen, mit Hilfe derer sie geschlechtsspezifische Themen fachbezogen und fächerübergreifend vermitteln können.
3. Die Bildung besitzt das Potenzial, eine Schlüsselrolle bei der geschlechtsspezifischen Erziehung und geschlechtsbezogenen Veränderungen zu spielen. **Politische Relevanz und Empfehlung:** Schulen und Einrichtungen der höheren und weiterführenden Bildung sollten verpflichtend Gleichberechtigungspolitiken einführen, die regelmäßig überprüft und öffentlich bewertet werden. Bei Nichtumsetzung derartiger Strategien und wenn es versäumt wird, korrekte und zeitnahe Daten für die Beurteilung der Strategien zu liefern, sollten Sanktionen drohen.
4. Trotz einiger Fortschritte hin zu den Zielen von Lissabon, bleiben geschlechtsbezogene Unterschiede und Ungleichheiten in der Bildung in Bezug auf Vorlieben bei der Fächerwahl und die Leistung bestehen. Auch die Qualität der Bildungs- und Weiterbildungserfahrungen differieren nach wie vor. Diese Diskrepanz zwischen den Geschlechtern variiert innerhalb der 27 Mitgliedstaaten der EU stark; wird nur die durchschnittliche Leistung Europas betrachtet, werden einige Extrembeispiele vernachlässigt.

5. Im europaweiten Durchschnitt haben Jungen einen leichten Vorsprung in den mathematischen, naturwissenschaftlichen und technischen Fächern (MST), wobei dieser Vorsprung in manchen Ländern der EU nicht mehr existiert und Mädchen und Frauen bereits in vielen Ländern eine bessere Leistung bringen als Männer und Jungen. **Politische Relevanz und Empfehlung:** Programme, die darauf abzielen, die Partizipation der Frauen in den Bereichen Mathematik, Naturwissenschaften und Technik zu erhöhen, sind wirksam, insbesondere, wenn im Zuge dieser Programme spezielle Unterstützungsmaßnahmen für Neuankömmlinge aber auch dauerhaft während des gesamten Studiums angeboten werden.
6. Es gibt erhebliche Anzeichen dafür, dass in Fächern aus den Bereichen Mathematik, Naturwissenschaften und Technik (MST) an weiterführenden und höheren Einrichtungen sowie den angeschlossenen Berufszweigen eine männliche Kultur vorherrscht. Diese Tatsache hält viele Frauen und Mädchen davon ab, eine Karriere in diesen Bereichen einzuschlagen. Die mangelnde Offenheit für Frauen (und in manchen Fällen eine offenkundige Ablehnung) in Bereichen wie Mathematik, Technik, Maschinenbau und Technologie entmutigt Frauen, diese Berufe zu wählen. Frauen lehnen eine Karriere in MST-Bereichen nicht ab, weil ihre geistigen oder technischen Fähigkeiten weniger ausgeprägt wären. **Politische Relevanz und Empfehlung:** Eine Kultur zu verändern ist ein langwieriger Prozess. Die Einführung eines verbindlichen Moduls über Themen wie *Geschlecht und Technik*, *Geschlecht und Mathematik* und *Geschlecht und Wissenschaft* als integrativen Bestandteil aller Universitätsabschlüsse, Diploms und Schulungen für alle Studenten wäre ein sehr hilfreiches Instrument.
7. Die Leistung von Jungen beim Lesen und Schreiben ist deutlich geringer als die von Mädchen und das Niveau der Lese- und Schreibfertigkeit sinkt EU-weit allgemein ab. Bei Jungen ist zudem die Wahrscheinlichkeit höher, dass sie die Schule vorzeitig abbrechen. Vor allem Jungen aus Arbeiterfamilien aller ethnischen Gruppen und Minderheiten haben die meisten Probleme beim Lesen und Schreiben und brechen die Schule am häufigsten vorzeitig ab. **Politische Relevanz und Empfehlung:** Das Problem der Entfremdung von Jungen (und häufig auch Mädchen) aus Familien mit niedrigem Einkommen und Familien ethnischer Minderheiten von der Bildung muss in der Politik einen hohen Stellenwert erhalten.

8. In guten Bildungseinrichtungen gibt es keine Diskriminierung. **Politische Relevanz und Empfehlung:** Qualitativ hochwertige, öffentlich zugängliche Bildung ist wichtig für Studentinnen und Studenten mit einem sozialen Hintergrund, in dem traditionell keine hohe Leistungsfähigkeit in einem Bereich vorherrscht. Höhere Standards im Bildungswesen und höhere Erwartungen, *kombiniert mit Unterstützung und Fürsorge für die Studentinnen und Studenten*, wird zu höherer Leistungsfähigkeit und höheren Erwartungen bei den Mädchen und Jungen in nicht-traditionellen Studienfächern führen.
9. In Studienrichtungen wie Kunst oder Geisteswissenschaften und allen Bereichen, die einen pflegerischen Hintergrund haben, einschließlich Krankenpflege, Grundschullehramt und Kinderbetreuung, sind Jungen und Männer unterrepräsentiert. Wenn Männer Berufe im pflegerischen Bereich ergreifen, ist ihr Anteil im Management und anderen nicht-pflegerischen Positionen überproportional hoch. **Politische Relevanz und Empfehlung:** Es ist dringend erforderlich, Forschungsbemühungen zum Thema Männer und Männlichkeit und zum Thema Frauen und Weiblichkeit zu unternehmen und Trainingsprogramme in höheren Bildungseinrichtungen zu diesem Thema anzubieten, um die fest verankerten Rollenklischees aufzuweichen, die Männer und Frauen bei ihrer Berufswahl und ihren alltäglichen Entscheidungen beeinträchtigen.
10. Frauen in Europa werden nach wie vor benachteiligt bei Vergütung, Beförderungen, Arbeitsplatzsicherheit und Status, Rentenansprüchen und Lebensqualität. Geschlechterbezogene Ungleichheiten bei der Ausübung von Fürsorgetätigkeiten spielen in diesem Zusammenhang eine wichtige Rolle. **Politische Relevanz und Empfehlung:** Gleichberechtigung bei der Ausübung von emotionaler und pflegerischer Arbeit ist entscheidend für eine Gleichberechtigung der Geschlechter, darunter auch die Gleichberechtigung im Bildungswesen.
11. Sowohl Fächer als auch Berufe haben symbolische Eigenschaften, die geschlechtsspezifisch sind. Deshalb sind viele Eltern und Freunde der Auffassung, Jungen interessierten sich auf ganz natürliche Weise für wissenschaftliche Themen und Mädchen seien prädestiniert für die Geisteswissenschaften. **Politische Relevanz und Empfehlung:** Kulturelle Gegebenheiten von Fächern und Berufen zu verändern, ist ein langwieriger Prozess, doch Trainingsmodule über die Geschlechter-Problematik sind ein wichtiger Schritt in die richtige Richtung. Es sollten in allen Fächern geschlechtsspezifische Analysen erfolgen und schulische und weiterführende Trainingsprogramme sollten verpflichtend ein Modul über die Gleichberechtigung der Geschlechter enthalten.

12. In vielen Ländern wird sehr wenig Wert auf das Thema Gleichberechtigung der Geschlechter während der Lehrerausbildung und im Schuldienst gelegt. Lehrer werden auch nicht daraufhin beurteilt, inwieweit ihre Beziehungen zu den Lernenden einen Beitrag zu einer stärkeren Gleichberechtigung oder sozialer Gerechtigkeit leisten. **Politische Relevanz und Empfehlung:** Lehrer und Professoren müssen systematisch in theoretischen wie praktischen Modulen in der Gleichberechtigung der Geschlechter im Bildungswesen geschult werden. Die Beurteilung von Lehrern sollte auch die Beurteilung der angehenden Lehrer (einschließlich der Professoren in der Hochschulausbildung) in Bezug auf eine Gleichbehandlung der Geschlechter beinhalten. Schulen und Hochschulen sollten systematisch hinsichtlich ihrer Errungenschaften bei der Gleichberechtigung der Geschlechter evaluiert werden.
13. Die zunehmende Betrachtung der Bildung unter marktwirtschaftlichen Gesichtspunkten, insbesondere der Hochschulbildung, hat erhebliche Auswirkungen auf die Geschlechterproblematik. Der extreme Wettbewerb in einer Macho-Kultur, die hierdurch gefördert wird, hält Frauen davon ab, leitende Positionen im Management zu übernehmen und in leitende Positionen in der Forschung oder auf Hochschulebene vorzurücken. Die Auffassung, 7 Tage die Woche 24 Stunden arbeiten zu müssen, die durch die Verwirtschaftlichung gefördert wird, beruht häufig auf der Annahme, dass man keine Fürsorgetätigkeiten zu erfüllen hat und stellt einen echten Nachteil für Frauen dar. **Politische Relevanz und Empfehlung:** Es ist erforderlich, die Auswirkungen der Verwirtschaftlichung und Kommerzialisierung auf die Karrierechancen für Frauen und Menschen in pflegerischen Berufen im gesamten Bildungssektor zu untersuchen.
14. Eltern und Gleichaltrige spielen eine entscheidende Rolle bei der Fächerwahl und den Berufs-/Karrierewünschen. Veränderungen im Verhalten von Eltern und Freunden sind ebenso wichtig, um Rollenklischees abzubauen, wie Veränderungen beim Verhalten von Lehrern. **Politische Relevanz und Empfehlung:** Es ist erforderlich, ideenreichere und systematischere Methoden in der Erwachsenenbildung sowie neue Medien einzusetzen, um die Gleichberechtigung der Geschlechter bei den Eltern und einer breiteren Öffentlichkeit zu fördern.
15. Die geschlechterbezogenen Auffassungen über unterschiedliche Fachrichtungen und Berufe agieren als antizipatorische Sozialisierungsformen, die die Fächer- und Berufswahl junger Mädchen und Jungen beeinflussen. **Politische Relevanz und Empfehlung:** Bildung selbst ist ein Instrument, um Klischees über einzelne Fächer zu durchbrechen. Hierzu ist es erforderlich, das Thema Gleichberechtigung der Geschlechter als Modul in Pflichtfächer zu integrieren und die kritische Würdigung des Geschlechterthemas in alle Fächer einzubetten.

16. Neue Denkansätze und Forschungsbemühungen über geschlechterspezifische Themen wurden bisher nicht systematisch verfolgt. Die meisten Fächer ignorieren die Geschlechterproblematik. **Politische Relevanz und Empfehlung:** Kritische feministische Disziplinen und Disziplinen, die den Gleichheitsgedanken hervorheben und Rollenklischees der Geschlechter kritisch betrachten und dabei den Einfluss von Rassezugehörigkeit, Zugehörigkeit zu ethnischen Gruppen, Behinderungen, Gesellschaftsschicht usw. berücksichtigen, müssen systematisch gefördert werden, wenn bedeutende kulturelle Veränderungen im Denken über Gleichberechtigung der Geschlechter erreicht werden sollen. Ein Verständnis über die Gleichberechtigung der Geschlechter muss systematisch gefördert werden, wenn es sich entwickeln soll.
17. Der gemeinschaftsübergreifende Verbreitung von Lehren aus guten Beispielen über Geschlechtergleichheit in der Bildung sollte in der Politik eine wichtige Rolle spielen.
18. Die Förderung der Gleichberechtigung der Geschlechter im Bildungswesen muss ein strategisches Kernziel bei der Entwicklung einer neuen Roadmap für die Gleichberechtigung von Frauen und Männern in Europa sein.
19. Politische Entscheidungsträger sollten sicherstellen, dass die Gleichberechtigung der Geschlechter eine echte und nicht nur eine rhetorische Priorität darstellt und Maßnahmen für den Wandel bei der Lehrerausbildung und im Schulalltag erheblich vorangetrieben werden.
20. Eine Förderung der Gleichberechtigung der Geschlechter impliziert eine Veränderung des Verhältnisses zwischen Männlichkeit mit Dominanz und Interessenlosigkeit an Fürsorgetätigkeiten und Weiblichkeit mit Verantwortungsbewusstsein für pflegerische Tätigkeiten. Es ist entscheidend, Bildungsprogramme und Forschungsbemühungen zu unterstützen, um die existierenden Rollenklischees zu durchbrechen.
21. Gleichberechtigung für Frauen bedeutet nicht einfach, sie dazu zu bringen, männliche Normen der Leistungsfähigkeit anzunehmen. Es handelt sich auch darum, die Arbeit zu würdigen, die Frauen machen, einschließlich der Tätigkeiten im pflegerischen Bereich, und Jungen und Männer ebenso wie Frauen und Mädchen dazu zu erziehen, Fürsorgetätigkeiten zu übernehmen.
22. Gerechtere Gesellschaften und Schulen weisen ein geringeres Geschlechtergefälle im Bildungswesen auf. **Politische Relevanz und Empfehlung:** Die Förderung der wirtschaftlichen und sozialen Gerechtigkeit innerhalb einer Gesellschaft verbessert die Gleichberechtigung der Geschlechter im Bildungswesen.

INTRODUCTION: GENDER¹ EQUALITY AND EDUCATION IN EUROPE

The European Union has a strong track record of promoting gender equality within employment. However, promoting gender equality in education is not a listed priority in the *Roadmap for Equality for Women and Men, 2006-2010* (2006a). While the elimination of gender stereotypes is one of the six priorities, the focus is principally on breaking down stereotypes in employment.

While respectful of the principle of subsidiarity, the Open Method of Co-ordination has limitations in terms of promoting gender equality at EU level; it allows objectives agreed at EU level to be variously interpreted by Member States. If states do not prioritise gender equality in education for example there is no legal constraint on them to do so (O'Connor, 2008; Rubery et al., 2005). The realignment of European policy towards the economy and employment rather than towards the social agenda on foot of the Lisbon strategy would appear to have lowered the status of gender equality as a priority at EU level (O'Connor, 2008).

There appear to be tensions and contradictions in relation to gender equality in the Union. The data in Annex 1, gathered from a range of sources², show that women are under-represented in decision-making bodies both in EU institutions and in the nation states that make up that Union. Yet, the EU has made an important contribution to encouraging attention to gender matters within member states, and in drawing attention to diversity within as well as between

¹ As the meaning of "gender" is often assumed rather than explicitly interpreted, and as this vagueness leads to lack of clarity in much research and writing about gender in education (Glasser and Smith, 2008), we wish to make clear at the outset that the focus of this report is on gender rather than biological sex. It will examine the social and cultural differences between girls and boys, women and men in the context of education. The report recognises however, that gender identities are multivalent, that is to say that they intersect with other salient identities, including social class, ethnicity, religion, culture, disability, sexuality and age. Gendered identities cannot be interpreted in isolation from other attributes, along with which they vary widely across cultures and change over time (Harding, 1991; Butler, 1993; 1999; Asher, 2007).

² http://ec.europa.eu/employment_social/publications/2008/ke8108186_en.pdf
http://ec.europa.eu/employment_social/women_men_stats/index_en.htm
http://ec.europa.eu/employment_social/gender_equality/gender_mainstreaming/roadmap_en.htm

female and male learner groupings (Commission of the European Communities, 2008). The way in which gender equality in education has been interpreted however has been strongly focused on women's labour market participation, especially on equalising their participation in Mathematics, Science and Technology (MST). The male definition of success is taken as the norm; equality for girls and women is measured in terms of their degree of adherence to that norm. Hence the task of educational equality becomes how to make women more comparable to men in rates of attainment in MST in particular. This is despite a marked increase in female excellence in most curricular areas and a worrying deterioration in the performance of some boys, notably in literacy and in early school leaving (Smyth, 2007). Boys and men are also under-represented in arts and humanities and in all areas of study that have an affective (care-related) dimension. Yet this is a gendered learning inequality that receives little attention.

A vast amount of European and international research studies the various aspects of the complex relationship between gender and education.

- *How are gender inequalities created and reproduced within and around contemporary schools, in employment and in wider society?*
- *Why do boys drop out of school more often than girls?*
- *Why, in spite of increasingly high performances, girls and young women in many countries do not identify with mathematics, science and technology subjects and related careers?*
- *What makes reading relatively unattractive to boys, especially working class boys and boys from particular minority backgrounds?*
- *How does gender interface with immigration in creating inequalities in education?*
- *Why is the cultural imperative on women to do care work and on men to do "dominance" so important for understanding the dynamics of educational choices and occupational outcomes?*
- *Does the relative educational success of girls' matter, given that it does not necessarily translate into either labour market and/or income advantage in later life?*

- *What role do parents and peers play in determining the gendered outcomes of education?*
- *How to challenge gendered choices and inequalities in education (and employment)?*

These are some of the burning questions that the research reviewed in this report addresses.

Scope and structure of the report

This report is a review of international research evidence on the relationship between gender and education, focusing especially on the Lisbon objectives and EU benchmarks. It provides a critical, empirically and theoretically-informed analysis of how gendered identities relate to educational processes and outcomes. It summarizes existing research and outlines the policy lessons and measures that are shown to contribute to greater equality between women and men, boys and girls in education. It aims to inform those responsible for policy development and implementation in related fields.

While this report is a review of a large body of research in this field, it does not pretend to cover all aspects of this very complex topic or all the literature. To undertake a complete review of all research on gender and education is not feasible in a report of this kind. Consequently, this review is focused on the issues that appear to be most salient at EU level, especially given the benchmarks set by the Lisbon objectives in the gender area (CEC, 2000). Following on from this report, Eurydice's ongoing study on "Gender and Educational Attainment" (forthcoming in November 2009) will include a comparative overview of policies and measures in European countries with respect to gender equality in educational performance.

This report is divided into three chapters:

Chapter 1 reviews the data in relation to measured performance outcomes and gendered choices in education. It pays particular attention to the indicators, benchmarks and outcomes relating to the Lisbon objectives with respect to gender. Not all benchmarks are individually addressed as the focus has been on aspects of education and training where gender inequalities have been highlighted in research. In the field of lifelong learning, for example, relevant

gender considerations in pre-school, compulsory schooling, post-compulsory education and training and adult literacy are threaded throughout the report. Chapter 1 also highlights the ways in which gendered employments and informal care work acts back on education through creating anticipatory job/career choices and paths for both genders.

Chapter 2 presents a review of theoretical and empirical research about gender and education. This builds on the evidence from Chapter 1 to offer some explanation of the patterns identified in the measures, indicators and benchmarks. It examines research on the gendered culture of education at institutional levels, and the ways that gender stereotypes are maintained, reproduced and challenged by both students and teachers in educational settings. It also highlights the key roles parents and peers play in the gendering of school experience and in realising change.

Chapter 3 outlines the key messages from the review, draws some conclusions and discusses potential resolutions to persistent gender inequalities. It outlines further questions and propositions that merit in-depth consideration.

CHAPTER 1. GENDERED PERFORMANCES AND PREFERENCES IN EDUCATION – THE EU BENCHMARKS

Consideration of gender and education in the European Union (EU) is complex due to the uneven development and "wide divergence" in education and training generally across the Community (CEC, 2008a:9). EU averages can indeed be an average of extremes. In fact, gender in education across the EU occupies a vast and varied conceptual landscape. Consequently this report is, of necessity, limited in scope to an initial overview of statistical and empirical research in order to identify features of the larger terrain that merit a more in-depth analysis at country level and at comparative level.

1. EU Benchmark- Performance in Mathematics, Science and Technology (MST)

The EU benchmark for 2010 is set as "an increase of at least 15% in the number of tertiary graduates in MST with a simultaneous decrease in the gender imbalance" (CEC, 2008a: 10).

Assessment of performance and progress in European education and training systems since 2000 shows that although some gender differences in attainment remain, there are also changes (CEC, 2008a: 9). Overall, girls have higher rates of graduation at secondary level; advanced research degrees are the only sector of education where men are numerically dominant (Smyth, 2007; OECD, 2009). If success is measured in terms of attainment rather than participation and retention, there are also important gender gaps: boys perform noticeably less well at reading, and are more likely to be defined as having special educational needs. While girls perform somewhat less well at mathematics than boys (and there are within-country differences here) and are, on average, underrepresented among maths, science and technology students and graduates, the gap between female and male school performance is smaller in mathematics than in reading. Findings from PISA in relation to science, showed little or "no difference in average science performance" between girls and boys, with girls outperforming boys in 12 countries and boys scoring marginally higher than girls in 8 countries (CEC, 2008a:138; OECD, 2009). Comparing mathematics data since the 1960s and the 1980s, there is evidence that performance gaps favouring boys have declined in over nineteen countries (Smyth, 2007). The forthcoming Eurydice study on gender and education will contain an analysis of gender-related PISA results in MST.

While most of the focus on gender differences in performance has been on secondary education, there are also some gender differences in performance in higher education. In the UK, for example, although women are more likely to get a "good" degree (2nd class award or higher), a number of UK studies reviewed by Smyth (2007) show that men are more likely to get the highest award (first class honours degrees). Similar patterns have been found in Ireland (Lynch et al., 1999). This is a field that needs further investigation.

Mathematics, Science and Technology

Much of the research on gender inequality within Europe has focused on gender differences in the fields of mathematics, science and technology (MST). Objective 1.4 of the Lisbon Strategy identifies "increasing recruitment to scientific and technical studies" as an objective for all EU countries as well as "increasing gender balance among people learning MST" (CEC, 2008a). The Lisbon objective that focuses on increasing recruitment to science and technology is the only benchmark where targets are being met, and in some cases, surpassed. *Annex 2, Table 1* shows the progress against the five benchmarks for 2010 by the year 2008. As well as showing progress in MST, generally the table shows a worrying decline in reading literacy. Both of these areas contain gendered inequities with males showing a small advantage in MST, and a widening gap developing in favour of girls in the achievement of literacy.

Despite progress being made, the Lisbon progress report found that the gender imbalance in favour of males amongst MST students and graduates is still pronounced, especially in engineering and computing at graduate level (CEC, 2008a:14; OECD, 2009). What is somewhat surprising about the findings on higher education is that it is not mirrored in performance at secondary level. A review of research in the field, identified only modest measured advantage in mathematics and science for boys compared with girls in both PISA 2003 and PISA 2006 (Collet, 2008: 2.1.1). In PISA 2006, girls outperformed boys in science in 12 countries compared with boys' higher performance than girls in 8 countries. Moreover, psychological research on male and female abilities in mathematics and science shows that there are no differences in overall aptitude for these subjects (Spelke, 2005).

Despite girls' equal abilities and good performances, in 22 out of 30 OECD countries (including Germany, UK and the Netherlands) males were significantly more assured about their abilities in sciences than were females, who generally reported a lower "self-concept" regarding science (OECD, 2007:30). These attitudinal factors are seen as exercising influence on whether or not students choose to pursue further studies or a career in mathematics or science. However, a word of caution is also necessary here as there is evidence that girls in secondary education have a somewhat lower academic self-esteem *generally* than boys, even when they have similar rates of academic attainment (Hannan, Smyth et al. 1996:164-170). Their relatively lower academic self image does not preclude them from entering fields other than engineering and technology and excelling within them, notably in the arts, humanities, social and caring sciences.

The Culture of Subjects and Professions

Why is it that in spite of increasingly high performances, girls and young women in many countries do not identify with MST subjects and related careers? There are undoubtedly a complex set of reasons for this, including the fact that some subjects and fields of work are defined as "feminine" and others as "masculine". Young people wishing to affirm both their sexual and gender identities at the formative stage of adolescence are expected by peers to choose subjects that affirm their identities as desirable females or males, generally but not always in the heterosexual sense. Dominant (hegemonic) gender norms governing what are the ideal type masculine and feminine identities impact strongly on educational choices (Connell, 2005; Kessels, 2005). These norms are not school specific although they may be challenged or reinforced within the school setting.

Dominant masculinity

While some shift in the gendered culture of subjects has been identified, the culture of some traditionally male-dominated disciplines is not especially inclusive of women. A recent study of the perception of mathematics among 1,300 15 and 17 year olds in Sweden found that while a majority saw mathematics as a gender neutral subject, there were significant minorities, especially among boys, who did not adhere to this view: mathematics was more likely to be seen by boys as a "male domain". Boys who were specialising in science were *the* most likely to believe that mathematics was a male domain (Brandell & Staberg, 2008).

Gender and engineering

Research on engineering cultures in higher education as part of the European project *WomEng-Creating Cultures of Success for Women Engineers*, <http://www.womeng.net/>³ concluded that "it is not a deficit in abstract thinking that drives them [women] away from technology but the content and climate of technical institutions, referred to as an atmosphere of *dominant masculinity*" (Sagebiel & Dahmen, 2006: 6).

The masculinised culture of engineering schools takes different forms. It can take the form of texts being presented as highly technical and impersonal; if people appear in the text they are men doing technical things that do not appear to have social relevance. Or it can involve the absence of female role models in engineering departments, or the type of jokes or humour that is deployed that exclude women. It can also involve a feeling by female students that being an engineer makes one unfeminine and therefore sexually unattractive in a heterosexual world – a woman engineer fears being perceived to be adopting the masculine identity of that profession (this observation was made by female students in Germany, France and Austria in the WomEng study). Where there is discrimination and lack of welcome (and this was found especially to be true in Austria, Greece and Slovakia in the WomEng study) young women felt isolated and lonely in a class that has few girls. While women in engineering courses in Germany and France felt more accepted, research with people who dropped out of these programmes identified other subtle forms of exclusion, including the emphasis on a competitive macho culture within engineering departments.

Gender closure

Research from the US has found that girls take time to feel at home in male-dominated fields. Consequently having a strongly competitive ethos in first year is discouraging for those women who do opt for engineering (Etzkowitz et al., 2000). While women can and do compete on equal terms with men, Etzkowitz et al., found that men were not comfortable with this as they saw "engineering was their game and there was no place in their prestige system for a woman who competes successfully with them" (ibid; 2000, 55). The major reasons why girls and women do not see engineering, science and construction as a viable

³ It reviewed practices from seven countries: Germany, Austria, Finland, France, Greece, and Slovakia.

job/career route and are not attracted to study in these areas would appear to be strongly linked to the culture of these occupations (Sagebiel, 2003).

Challenging gendered subject cultures

The durable culture of subjects that have developed traditions and identities, rooted in wider gendered social contexts are difficult to change. Girls and women, boys and men who attempt the crossing into non-traditional areas of study and work for their gender have not always found the experience satisfactory. The small numbers of women in engineering, construction, science or technology training can find themselves having to assimilate into a male-dominated culture where they are viewed merely as tokens. Research in the construction field has found that women's arrival polarises attitudes and results in misogynistic behaviour to the newcomer who faces risk and isolation if they challenge the status quo (Whitlock, 2002). There are few, if any role models in positions of leadership in non-traditional areas of study and work and women require positive action and additional supports if they are to transcend outmoded and sexist attitudes and expectations (CEC, 2005; Sengers et al, 2008). Anticipating unequal and inhospitable working environments, women generally expect to have to fit into the existing culture of a particular occupation, rather than that men will change (Powell et al, 2006; Murphy et al, 2007). Also, because mathematics, science and technology are prestigious and powerful fields of study and work, this reinforces the pressure on women to adapt rather than on the profession to change. However, evidence from the WomEng study shows that subject cultures can change within traditional male-dominated fields, if there is a concerted effort to ensure that they do (Sagebiel and Dahmen, 2006).

Parents and Peers

The rise in performance rates for girls and women, and the impact of the equal opportunities discourse, have wrought some changes in pupils' gendered perceptions of subjects within educational institutions (Brandell and Staberg, 2008; Francis, 2000). Nevertheless this is mediated by other influences that can still promote more traditional views. Parents are powerful players in the gender game; they can and do reinforce gender stereotypical expectations. A number of studies have shown that teachers' and parents' gender-stereotyped behaviour and expectations can undermine girls' confidence in their mathematical abilities and eventually discourage them from choosing mathematics-related courses in secondary school (Eccles and Wigfield, 2002; Turner et al., 2004).

Recent research in Cyprus confirms findings about the salience of parents' attitudes to gender equality (Yryonides, 2007). Yryonides found that attitudes to gender equality varied along a continuum from the very conservative to the very progressive. However, expressed attitudes were not always proof of gender-fair practices, as parents sometimes invested more in their son's education despite the fact that they professed to believe that both girls and boys should be treated equally (ibid: 2007). Studies from Canada suggest that attitudes to science in particular are strongly influenced by parental perceptions and assumptions that tend to be highly gendered (Crowley et al, 2001). Both mothers and fathers were found to give preferential treatment to their male children in the development of scientific language, thinking and activities.

Schools are porous institutions in cultural terms; they occupy a separate physical space from families, the media, religious organisations etc., but they are not culturally separate. Students and teachers carry into school the cultural mores and values that are dominant outside of school thereby replicating the gendered assumptions of parents and society at large (Martin, 1996; Lyons et al, 2003; Bedard & Cho, 2007). Challenging gender stereotypical attitudes and values outside of schools is as vital as challenging it within them. Consequently, within the Canadian context, some resolution to the science gender gap, and the resultant wage discrepancy in later life, is seen to lie in changing sexist parental attitudes (Canadian Council on Learning, 2007).

Peer pressures

Adolescence is a key period of identity formation, and identifying with certain subjects in school and dis-identifying with others is a way of developing an identity as a person. Because some subjects are seen as masculine and others as feminine, subject choices are not simply driven by academic interests or even by capabilities. They are driven in some part by the desire to present oneself as particular kind of (attractive) masculine or feminine person (Hannover, and Kessels, 2004). Peers tend to reinforce gender stereotypical behaviour and punish non-conformity; this impacts on subject choices (Kessels, 2005). For example, Kessels's research in German high schools found that girls who excelled in physics in particular considered themselves to be particularly unpopular with boys. However, boys (and girls) who excelled at music did not feel that they were less popular with girls than other boys (or girls). There was a strong disincentive for girls to identify overtly with physics if they were to be seen as traditionally feminine; however, if boys opted for music they did not feel as sanctioned for this

as girls did for choosing physics. Kessels does not explain why this was the case, but it does show that the sanction for girls to opt into a male-defined subject was strong in the particular context of their study.

Gendered fields of academic study still exist with men dominating science, construction and engineering and women dominating the arts, humanities and care-related fields of study. The major reasons why girls and women do not see engineering, science and construction as viable job/career routes and are not attracted to study in these areas would appear to be strongly linked to the masculinised culture of the related subjects and occupations. Women are often not made welcome or culturally accommodated.

Peers tend to reinforce gender stereotypical behaviour and punish non-conformity; this impacts on subject choices. Parents are also powerful players in the gender game; they can and do reinforce gender stereotypical expectations. Students and teachers carry into school the cultural mores and values that are dominant outside of school thereby replicating the gendered assumptions of parents and society at large within education. Challenging gender stereotypical attitudes and values outside of schools is as vital as challenging it within them.

2. EU Benchmark - Performance in school-age literacy

The EU benchmark for 2010 is to decrease by at least 20%, the number of low-achieving pupils in reading literacy (CEC, 2008a: 10).

Annex 2, Table 1 – (Progress towards meeting the 5 benchmarks) shows clearly that the EU 20% reduction in low reading literacy⁴ is not being attained. Rather than approaching the targeted 20% reduction, there has instead been a 10% increase in low-achieving pupils in literacy between 2000 and 2006. This is the only benchmark that shows regression rather than progress, with the majority of countries "falling further behind" or "losing momentum". Only Denmark, Poland and Finland are moving ahead in the literacy benchmark albeit from different starting points (see Annex 2, Table 2) (CEC, 2008a:15). The failure to improve reading literacy in so many countries presents a long-term problem with far-reaching consequences for individuals, families and communities across both

⁴ *Reading literacy* moves beyond the simple decoding of written text, and tests the ability to use and apply the information obtained through reading. Students are tested across 5 levels of reading proficiency and country scores reflect an average of scores across combined levels. Those at level one and below are predicted to face serious challenges in all literacy-linked aspects of their lives in the future (PISA, 2006).

occupational and personal domains. The forthcoming Eurydice study on gender and education will contain an analysis of gender-related PISA results in literacy.

While PISA 2000 made a detailed study of reading performance, both PISA 2003 and PISA 2006 gathered data to update progress on reading. Girls generally outperformed boys in reading literacy in all OECD countries in PISA 2006. Girls outscored boys in reading literacy by at least 50 points in 12 OECD countries with the smallest gender gaps operating in the Netherlands (24 points) and the UK (29 points).

The gendered literacy gap is not confined to Europe. In the wake of PISA 2006, the Pan-Canadian Assessment Program of 13-year olds in mathematics, science and reading also found girls outperforming boys in reading tests by 23 points on a Canadian average score set at 500⁵. The Canadian Council on Learning's investigation of gender differences in reading achievement (of 13 year olds) suggest that reading attitudes and behaviour are highly gendered; on average, girls do more non-assigned reading, reading for enjoyment or reading for general interest than boys. And boys, on average, reported regarding reading as a feminine activity and not valuing it as much as girls. Girls and boys also reported different reading preferences in the types of material they enjoyed. The Canadian study also found that, even before starting school, reading is perceived by many boys as a feminine activity (and thus that seeing reading as "feminine" cannot be simply attributed to the gender of the teacher). They claim that boys' attitudes negatively impact on their subsequent involvement in reading and their scores in reading assessments (CCL, 2009). One limitation of the Canadian analysis is that it treats boys as an undifferentiated group in reporting the data. Yet there is evidence from several countries that not all boys are alienated from reading and that it is working class boys who have greatest reading difficulties. Indeed most of those who dominate the high status literary world (including Nobel Prize winners in literature) are men.

⁵ See *Annexe 2, Table 3* (Council of Ministers of Education, Pan-Canadian Assessment Programme, PCAP -13 2007).

As literacy learning is deeply relational and intricately bound up with care both at home and in school (Feeley, 2009), (not least because reading is a pastime in many cultures in a way that doing mathematics is not), it is necessary to explore the relationship of gendered roles and identities associated with reading at home to see how it impacts on educational identities in school.

Reading attitudes and behaviour are highly gendered: reading is perceived as more feminine than masculine across cultures. The feminised identity of reading discourages boys from engaging with it both inside and outside of school. Not all boys are alienated from reading however, and middle and upper class boys are generally encouraged to read and to perform well in subjects that require high levels of linguistic proficiency. It is boys from working class backgrounds in all ethnic groups and cultures who are the most likely to have literacy difficulties and to leave school early. Consequently, it is misleading to present the problem of "boys' failure" as a universal phenomenon - middle class, and especially upper class, boys are not allowed to fail in school.

3. EU Benchmark - Gender and early school leaving

The EU benchmark for 2010 is to achieve an EU average of no more than 10% early school leavers (CEC, 2007: 29)

Historical Context

Despite its current renaissance as a matter of educational concern, boys' early leaving and "underachievement" is not a new phenomenon in education (Willis, 1977; Cohen, 1998; Martino & Meyenn, 2001). The Schools' Inquiry Commission in the UK in 1868 was the first systematic public inquiry in that jurisdiction into the issue of gender differences in performance. They found significant differences in performance favouring girls. It noted that "Girls come to you to learn; boys have to be driven" (Cohen, 1998:27, citing the Taunton Commission, 1866: V. 952, Q11874). The focus of public debate at the time was on girls rather than boys: girls' educational zealotry was viewed with concern by a variety of professionals (including doctors) as they feared that it would create a risk of "atrophied maternal instincts". There was a fear that too much education would mean women might not wish to become good mothers (ibid). In contrast, boys' lower rates of attainment were not regarded as a major concern either in the 19th century or some fifty years later because, as reported by the Board of Education (UK) in 1923 "...It is well known that most boys, especially at the period of

adolescence have a habit of healthy idleness" (Cohen, *ibid*: 27, citing the Board of Education, 1923:120). What has changed over time is that boys' lower attainment is now defined as a social problem, not that it is a new phenomenon.

Current Context

Early school leaving in the EU context refers to the number of young people aged 18-24 with only lower secondary education or less and not in education and training (CEC, 2007a:30). Over the period 2000-2005 the percentage of early school leavers decreased from 17.6% to 15.6%. In 2006 the figure was 15.3% and in 2007 had further fallen to 14.8% for EU-27 (see *Annex 2, Table 4*). While the change in rates of early leaving is in the right direction, at this slow rate of progress, and with the changing economic climate, it is unlikely that the 2010 target of 10% early school leaving will be met. Although the majority of countries are making positive progress, some countries are stagnating and others are even regressing. The gap between best and least progress toward the 10% target is extensive. A small number of countries have already exceeded the benchmark (Czech Republic, Lithuania, Poland, Slovakia, Finland, Slovenia and Croatia⁶). At the other end of the spectrum Spain (31%), Malta (37.6%) and Portugal (36.3%) are well above EU average and at greatest distance from achieving the target.

The reports on early school leaving in the EU draw attention however to the unreliability of some data and the fact that figures do not always refer to the same period (CEC, 2007, 2008). We must exercise caution therefore in drawing conclusions and making cross-country comparisons.

Country variations

Across the EU male early school leaving now exceeds that of females in all but two countries (see *Annex 2, Table 5: Early school leavers by gender, 2000 and 2007 (CEC, 2008a:123)*). Only in Turkey and Bulgaria do more female than male students leave before completing upper secondary education. In Bulgaria the gender difference is small (0.6%) and approaching parity. In Turkey, 55.8% of females are early school leavers compared with 39.4% males⁷. This is explained in terms of a generally low expectation in terms of girls' educational participation. It

⁶ The data for Slovenia and Croatia are reported as unreliable because of the small sample size (CEC, 2008a:121)

⁷ All data are from Eurostat 2009.

is estimated that in eastern and southern regions of Turkey as many as 400,000 girls do not attend education "for reasons of economic conditions, tradition or absorption capacity and quality of education" (ETF, 2006:3). In rural areas of Turkey in particular, three quarters of women have unmet literacy needs and are employed as unpaid family workers without social security (ibid.).

Reasons for early school leaving

While many young men and women undoubtedly leave school early for economic and cultural reasons (GHK, 2005; Iannelli & Smyth, 2008; Restart, 2007; Walther & Pohl, 2005), others cite care responsibilities outside of school as impacting on school attendance. Focus groups and interviews with 467 ethnically and racially diverse early school leavers in the US found that while 33% left for economic reasons, a much larger number (48%) left school early because of care responsibilities. Of the 48% who left to do care work, most did so because they had become a parent (26%) while the remaining 22% had to care for a family member (Bridgeland et al, 2006). The impact of care responsibilities (including what is seen as *a care duty* in some cultures, namely to provide income for the family) needs to be investigated in terms of its impact on early leaving. The reasons young people have for leaving school early are complex. Early school leaving needs to be understood in the context of personal, social, educational and cultural factors that impact on decisions, not all of which are negative, especially from the student's perspective (ReStart, 2007).

School culture: Issues of racism, disablism, homophobia and classism

Given that in most EU countries a significant percentage of early school leavers are from migrant backgrounds (CEC, 2008a), there is a need also to examine the relationship between ethnicity, migrant status, gender and early leaving in more depth. Recent reviews of research in this area suggest that there is not only institutionalised racism in schools (Gillborn, 2008), but also institutionalised disablism, both of which work interactively to the detriment of minority children (Beratan, 2008). The disproportionate classification of ethnic minority students as "special needs" not only creates a safety valve for mainstream education, it also facilitates early leaving by making it educationally respectable: students can be defined as leaving by "choice" because they are defined as lacking "ability" or having "special needs". And it is boys from low income minority backgrounds who are most likely to be classified in this way (ibid). The discussion in Chapter 2 of masculinities and femininities gives further attention to this question.

Although much research on early school leaving focuses on the association between the attributes of the individuals and early leaving (particularly on their cultural, ethnic and social class backgrounds), there is a growing recognition that it is at the interface between the young person's culture and the culture of the school that our understanding of early leaving is likely to be enhanced (Mac an Ghaill, 2007; Phoenix, 2000). Australian research with 209 young people, both male and female, who had either left school early or were struggling to stay, found a deep disaffection with the school as a social institution (Smyth and Hattam, 2002). The authors reject depictions of early leavers as "socially and economically treacherous anti-citizens". They claim that the young people, irrespective of gender, experience "damaged lives" as they are "trapped within inhospitable and antagonistic school structures, practices and ideologies" (ibid, 2002:376). This study, carried out with a gender-balanced cohort found that school ideology and culture was the most significant influence in early school leaving. The research found that schools can be characterised in their culture of student-centredness as being on a continuum from "aggressive" to "passive" and "active" (ibid:380). The more "active and learner-responsive the school culture, the less likely students were to leave early. The more "aggressive" or authoritarian the school, the more likely learners, both male and female, were to leave before their schooling was completed.

Satisfaction with school (the importance of the socio-emotional climate of the school)

The importance of "engagement" and having a focus on the well-being of young people in school is found to be pivotal in both US and Canadian studies of early school leaving (Smyth, 1999; Rumberger and Thomas, 2000; Audas & Willms, 2001; Smyth, 2005). A recent comparative study of young people's difficulties in school in Estonia and Ireland found the socio-emotional climate of the school, notably the attitudes of teachers, level of social engagement etc., to be of considerable importance for retention at times of transition (Darmody, 2008). Another study in Estonia (Russ, Veisson, et al., 2007) also confirmed the importance of the socio-emotional climate of the school. Flemish research has found the sense of satisfaction (*Wohlbefinden, well-being, bien-être*) with education, and the perception of school as being relevant, to be gendered, with boys reporting less satisfaction and engagement than girls (Opdenakker & Van Damme, 2002; Engels et al, 2004). Engels et al (2004) designed and piloted an instrument to measure well-being with 2,054 students in the secondary school

context. On all the components of well-being – "behaviour" (*response to regulations*), "perception and satisfaction in the classroom and at school", "study pressure and the curriculum" and "friends", boys expressed less satisfaction with the experience of schooling than did girls (ibid:135). It would appear therefore that girls are more satisfied in schools generally than boys, and that even if girls are not that content, they are more likely to conform to the expectation that they stay in than boys.

There is general agreement that accounting for early school leaving, and the gender differences therein, is a complex matter involving individual, peer, family and community factors within diverse cultural contexts. At school level, there is some evidence that institutionalised racism, interacting with disability in the case of boys, does seem to contribute to early school leaving (Beratan, 2008; Gillborn, 2008). At the individual level, economic motives for leaving school early are prevalent, as is lack of fit between the individual and the school, both in terms of perceived roles and relationships (Mac an Ghail, 1994, 2007; Rowan et al, 2002; Beekhoven & Dekkers, 2005). While boys' disaffection from schooling can and does take overt forms through direct challenges to authority and early leaving, it is counterbalanced among girls with increased anxiety, and the internalisation of dissatisfaction with school through stress, eating disorders, depression and self-harm (Osler and Starkey, 2001). Girls' resistance to schooling may merely be taking different forms.

Bullying and Sexual Harassment

Research on early school leaving does not tend to examine the relationship between peer bullying, sexual and other forms of harassment, and school drop out. However, the literature suggests that all forms of bullying contribute to depression, unhappiness and isolation in school. When these experiences persist, they ultimately contribute to early leaving (Sanders, 2004). As bullying is a complex phenomenon, involving an abuse of power and use of aggression, it is a subject that cannot be examined in depth here. However, there is considerable evidence that sexual and other forms of harassment and bullying are quite common in schools in different countries. Studies in the Netherlands, Sweden and the US show that sexual harassment is a pervasive problem for girls in schools, particularly in adolescence (Gruber & Fineran, 2007; Petersen and Hyde, 2009; Timmerman, 2005; Witowska & Menckel, 2005). Evidence from Finland suggests that bullying is a hidden form of school violence that needs to be addressed at a

cultural level within schools (Hamarus and Kaikkonen, 2008). Irish data show that young people who are gay or lesbian are also often exposed to homophobic bullying in school; this results in fear, negative stereotyping and the experience of discrimination (O'Higgins-Norman, 2009). Even where education about sexuality includes education about homosexuality, the way homosexuality is represented may marginalize those who are gay or lesbian. Classroom observations of sexuality education classes in Norway has found that homosexuality was defined as something to be tolerated rather than represented as normal; the authors suggest that an attitude of tolerance is stigmatizing as heterosexuality is implicitly defined as the norm while homosexuality is defined as deviant, something to be tolerated (Rothing, 2008). Given the pervasiveness of bullying and harassment in schools, investigating its relationship to early leaving is an important if neglected subject.

The relevance of school

Not all studies focus on gender as a causal factor in early school leaving. Other research highlights links between early school leaving and the quality of early childhood care, parental education, educational success, social class and socio-economic status, and/or ethnicity (Jimerson et al, 2000; Teese et al, 2000; Bessant, 2002). Teese et al (2000) found that working class boys are more vulnerable to failure, and are more negative in their attitudes towards school than working class girls and that, where employment opportunities are plentiful their integration within school tends to be more conditional. It would appear that when there are accessible employment opportunities for young men in particular that offer immediate financial gain (even if they offer few career prospects) they are often more appealing than staying in school where the longer term gain from education is uncertain, and where in the short term one experiences relative failure and low status (Willis, 1977; Boldt, 1997). While disaffection from school can and is compensated for by the expectation of future career rewards among middle and upper class boys (and girls) no such future gains are available to those young boys and men who are low achievers or who are classified as "special needs". The experience of relative failure, combined with the lack of social connection to the school as institution, creates a strong incentive to leave. Smyth (2005:378) argues that ultimately it is the voices of disaffected young people, in deep conversations ("voiced research") about their experiences, that must be allowed to provide the answers to what would make school really germane to their lives and so keep them in school.

Gender and early school leaving - reviewing the issues

There appear to be a number of major issues to be addressed therefore in relation to early leaving from a gender perspective, particularly the interface between the peer culture of different femininities and masculinities and the culture of the school. First there is the issue of how the culture of schools themselves can be a determining factor in early leaving. Schools that do not have an active ethos of engagement and caring for students are more likely to facilitate early leaving for both genders. Recent work by Hallinan (2008) in a major study in Chicago demonstrates the importance of caring by teachers for liking school, which in turn increases rates of retention. She found that students who perceived that their teachers cared about them, respected them and praised them had the most positive attitudes to school. In contrast, teacher expectations of students' achievement had a negligible effect on students liking school. Hallinan's empirical findings confirm the importance of Noddings' (2003, 2006) thesis that caring is vital for learning. A review of psychological research by Cohen (2006) confirms the importance of having a positive socio-emotional climate in schools for learning to take place.

Second, there is considerable evidence that boys in general do not like school as much as girls, and for a host of culturally socialised reasons, are also less likely to accept the authority of schooling and are, for example, more disruptive in class if they are not interested in learning (Meyenn and Parker, 2001; Lyons, et al, 2003; Martino and Pallotta-Chiarolli, 2003). Boys are therefore more likely to be in conflict with school authorities which can propel early school leaving. Furthermore, boys and young men who are likely to make marginal career gains from continued schooling have little status incentive to stay in school especially where there is the pull factor of employment that gives one immediate access to a valued male identity as a potential breadwinner or "salaryman" as he is known in Japan (Dasgupta, 2000). The marginal rate of return from education is high for some but relatively low for others, certainly in the short term (Harmon and Walker, 2003). As Willis' (1977) classic study of young men showed over 30 years ago, young men are keenly aware that the occupational gains that one makes from education are relative to other competitors on the labour market. When early leaving gives one access to job opportunities in sectors of the economy (such as construction) that offer immediate access to a male "breadwinner identity", an identity which is prized by both young and older men (Hilliard and Nic Ghiolla Phádraig, 2007; Hanlon, 2009), there is a strong incentive to leave. Neither the status incentive in terms of gendered positioning, nor the wage incentive in terms

of income, is available to young women who leave school early without qualifications. Such young women are likely to enter the low-wage pink collar services sector (catering, cleaning, caring and retail work) that is much more poorly paid than the areas of employment that young men without qualifications can enter directly, notably construction work, transport and certain areas of manufacturing.

While rates of early school leaving are declining, they are decreasing very slowly. The rate of early leaving remains higher for boys than for girls. However, not all boys leave school early. Middle class and upper class boys, across cultures, have high rates of retention. It is working class boys (and girls, but to a lesser degree) from all types of ethnic backgrounds who are most likely to leave school early. Masculine and feminine gender distinctions carry as much diversity within them as they do between them. By focusing on boys' lower attainment, there is a failure to identify and problematise *which* boys are doing badly and *why* that is the case.

Institutionalised racism and disablism in schools exacerbates and legitimates early leaving. Schools are often alienating places for students who are not achievers; consequently, leaving school early is seen as preferable to staying by students who feel the marginal rate of return from schooling is low. Peer bullying and all forms of harassment can also contribute to early leaving; there needs to be more research on this subject. On the positive side, there is growing evidence that the more caring, respectful and democratic schools are, and the higher the probability that prolonged schooling will lead to good employment, the higher the rates of retention.

4. EU Benchmark- Employability - tertiary education, training, paid work and care

The EU benchmark for 2010 is to achieve an overall employment rate of 70% with a 60% employment rate for women (CEC, 2007: 29)

The positive rise in employment and productivity across the EU (CEC, 2008a) has now been superseded by a global economic downturn which makes even recent employment figures unreliable. Nevertheless, using available data, this section looks at gendered participation in higher level education, training and subsequent outcomes in terms of career and work. Employability within the EU is closely linked to educational attainment; specifically, those with high-level qualifications are likely to have the highest economic returns on their learning investment (Harmon and Walker, 2003). However, for *employability* to lead to *employment*, educational attainment on the part of the individual needs to be matched by the state and the employer with "accessible, and affordable quality services" in terms

of care for children and other dependents (CEC, 2008b:10), particularly for primary carers, the great majority of whom are women. The most recent report on child care by UNICEF (2008) shows however, that only a small number of countries give optimal child care supports and even these do not fully take account of the care needs of children and parents. The care needs of older dependent persons also impacts on the employability and health of women in particular (Cannuscio et al., 2004; Waerness, 1990) and this too needs to be addressed.

Gender, qualifications and work

Women in Europe are now more likely than men to participate in third and fourth level (post graduate) education and to graduate. Women's participation rates in higher education exceed that of men in all but eight countries (Czech Republic, Germany, Luxembourg, the Netherlands, Romania, Slovakia and Austria) (see *Annex 2, Table 6*). Moreover, attainment trends amongst younger women and men (20-29 years) show women levelling with and surpassing men (see *Annex 2, Table 7*, from CEC, 2008a:151). Despite women's significant rise in both participation and attainment rates, gendered fields of academic study still exist with men dominating science and engineering and women dominating arts and humanities (Smyth, 2005) (see *Annex 2, Table 8*). Gender differences are most pronounced in engineering and computing with only 18% and 20% of women graduates in each area respectively (CEC, 2008a:140). However the available evidence suggests that once gendered attitudes are dispelled sufficiently for women to enrol on MST courses, they perform as well as men. In addition, the drop out rate for women is lower on MST programmes as is shown by their higher rates of graduation relative to enrolment (CEC, 2008a:140). Despite their relative high rates of academic attainment in science and engineering, a significant gender gap develops for women across the academic career span with women's occupying only 9% of top level academic posts in science and engineering in 2003, a very small increase from 1999 when 8% of top academic posts in these fields were held by women (Rees, 2001; CEC - *She Figures, 2006*; Collet, 2008; see *Annex 2, Table 9*). There are only small changes in women's rates of employment within the MST field generally and they tend to be at professional and technical grades (including human resource work), while men continue to dominate employment in science and engineering (see *Annex 2, Table 10*).

Women and work

In employment generally, the number of women working outside the home increased in 2008 but greater female employment did not mean better quality of work opportunities (CEC, 2008b). The pay gap for EU women remains consistent since 2003 at 15% lower than that of men⁸. Women are underrepresented in management, in government and in other decision-making and senior management posts (see Annex 1). To all intents and purposes, despite women's progress in tertiary education and in the workplace, women are not gaining labour market advantages that are in line with their academic achievements. Not only are women concentrated in lower paid work that is more unstable than that of men, they are also much more likely to work part-time and to number amongst the long-term unemployed, to have shorter, slower careers and to be at greater risk of falling into poverty (ibid.). Only 62.4% of women with dependent children are employed compared with 91.4% of men (CEC, 2008b) and this is directly correlated with unequal care-sharing (Einarsdóttir, 2002).

The gendered division of care work

The thesis that schooling raises the individuals' productivity which is afterwards translated into higher returns in the labour market neglects the "unobservable" and gendered division of care labour (CEC, 2008b). This means that although women are highly successful in gaining qualifications, their subsequent career path is often interrupted or blocked by the conflicting demands of care that are unequally divided amongst men and women (Bettio and Platenga, 2004; Folbre, 1994, England and Folbre, 1999; Folbre and Bittman, 2004; EC/NESSE, 2009). Those women whose education, training or career is interrupted face a range of barriers to returning to learning or work (Russell et al, 2002). They are immediately disadvantaged in terms of earnings, career progression, and also in terms of pension entitlements in later life. Within economically developed countries, state recognition and provision of care varies considerably with only Sweden meeting all the minimum standards for early childhood care and education as laid out by UNICEF (2008). While not denying the significance of the

⁸ The wage gap is not a full indicator of the difference in economic status between women and men as it does not take account of wealth, including property, investments, shares etc.; if wealth were taken into account, Connell (1995) estimates men's average income is almost double that of women in rich industrialised countries.

so-called "glass ceiling"⁹ (Albrecht et al., 2003), we suggest that *the care ceiling* is arguably more important in determining women's occupational career path.

Gendered labour segregation, both horizontal and vertical, has roots in gender stereotyping that in turn impacts on early learning preferences at school and subsequent training and work options. The same gender stereotyping determines who carries the responsibility for domestic work and family caring and who has access to the influential decision-making positions that shape social change (CEC, 2008b). Even now that "wifedom and motherhood" are no longer held up as the main aspiration for girls and women, they have become a form of parallel "career" as women, unlike men, are expected to labour both inside and outside the home (Hochschild, 1989; Cole, 2000:34; Lynch, Baker and Lyons, 2009; O'Brien, 2007).

Women in Europe are now more likely to graduate with third-level degrees than men. Despite this, women earn less than men within and between different sectors of the economy, and they are concentrated in lower-paid and more unstable forms of work. They are also much more likely to work part-time and to number amongst the long-term unemployed, to have shorter, slower careers and to be at greater risk of falling into poverty. Although women are highly successful in gaining qualifications, their subsequent career paths are often interrupted or blocked by the conflicting demands of care that are unequally divided amongst men and women. Those women whose education, training or career is interrupted face a range of barriers to returning to learning or work. The moral imperative on women to be primary carers in society, and the status imperative on men not to be, means that women are culturally positioned to be economically subordinate to men in spite of their increasingly high academic and technical qualifications.

⁹ The glass ceiling refers to the process whereby suitably qualified women are not able to progress to senior posts commensurate with their qualifications due to direct and indirect discrimination, and/or cultural and organizational barriers in work places. They can see the top-level posts through the "glass ceiling" above them, but they are not allowed to access them.

CHAPTER 2. THE GENDERED CULTURE OF EDUCATION

This chapter explores the gendered culture of education at institutional level and examines how traditional gender roles are preserved and policed by students, teachers and peer groups in educational settings.

Articles 2 and 3 of the Treaty of Amsterdam (CEC, 1999) formalised the European Community commitment to gender mainstreaming by establishing equality between women and men as a specific task of the Community as well as a horizontal objective affecting all Community tasks, including those related to education and training. All Member States are required to enact national equality legislation in response to directives from the EU. Nevertheless, despite often ambitious legislation, policy and curriculum planning in relation to gender equality in many countries, a gendered culture prevails in wider European society that is reflected throughout the education system. School management and personnel embody a traditional gender value system which is constantly reinforced through the hidden curriculum (Lynch, 1989; Apple, 2000; Lyons et al, 2003; CEC, 2007: 2008; Tallberg Broman, 2007).

Critique of the gendered nature of education has been important in the quest for educational justice. Initially it was feminist scholarship¹⁰ that alerted us to the complexity of gender matters in education. During the 1980s and 1990s especially, considerable research was undertaken showing how male-defined interests were enshrined and enacted throughout every facet of the education system (Arnot, 1982; hooks, 1989; 1990; 1994; Spender, 1980, 1982; Weiler, 1988; 1991). Gendered assumptions underpinning policies and practiced in curriculum, pedagogy, school culture and assessment were uncovered (Arnot, 2002; Gilligan, 1982; Gipps and Murphy, 1994; Harding, 1987; 1991; hooks, 1997; 2000; 2003; Lynch, 1999; Lyons et al, 2003; Walkerdine, 1989). Furthermore, a growing body of pro-feminist scholarship written by men (Apple, 1986; 2007; Mac An Ghail; 1994, 2007; Connell, 1995, 2002, 2005; Kimmel et al, 2005) showed how gender-based inequalities in education continued to institutionalise gender stereotypical attitudes and behaviours. These, consequently, denied men as well as women,

¹⁰ It is important to note that although anti-patriarchal, the feminist perspective is not anti-male. Rather it seeks to rebalance gender-based inequalities that, like all forms of injustice are destructive for those who occupy both dominant and subordinate positions (Freire, 1972; Wilkinson, 2005; Wilkinson and Pickett, 2009).

subject choices, cultural experiences and learning that not only enhanced their capabilities but would give them wider job and career options and relationship options in life.

Education is never neutral and knowledge is always value-laden and can either maintain or challenge the hegemonic order, sometimes simultaneously (Freire, 1972; Apple, 2000; Giroux, 2002). It is important therefore that we look beyond competing and overly-simplistic education gender orthodoxies of "underachieving boys and highly-performing girls", not least because there are cohorts of middle and upper middle class boys who continue to perform well in school (Lucey and Walkerdine, 1999). Elite schools for girls and boys place a strong emphasis on academic as well as social accomplishment (Meadmore and Meadmore, 2004). Moreover, a singular focus on performance can conceal the complex expressions of gender inequality that are not performance based, both for girls and boys, women and men. Accordingly, this section looks beyond the data on performance to what the literature tells us about gender culture as it is expressed in schools and colleges, and importantly, how it may negatively or unequally affect pedagogical practice (Haywood and Mac an Ghaill, 2003).

Conceptions of gender equality

Conceptions of both gender and equality differ across cultures. The approach to gender equality adopted in a given country therefore depends on the ideological¹¹ perspective or the "broader mission" adopted by state policy makers and interpreted by individual educational establishments and those who work within them (CEC, 2002/c 142/01:2.3). While classical liberal approaches to equality will focus on *equal formal rights to access* in particular, more critical liberals, such as those within the tradition of John Rawls will want *fair equality of opportunity*, seeking not just the right to *access* education but to *participate* on equal terms within it (Rawls, 1972). Those with a more radical view will want *equality of condition*, a greater focus on measuring gender equality not only in terms of *access* and *participation* but in terms of *outcomes* and benefits over time (Baker et al., 2004; Lynch and Baker, 2005).

¹¹ Ideology may be defined as a set of beliefs, values, and opinions that shapes the way a person or a group thinks, acts, and understands the world.

An equality of condition perspective highlights the fact that if society generally remains economically, politically and socially very unequal, it is highly unlikely that one can have any meaningful equality of opportunity in education (Blossfeld and Shavit, 1993; Wilkinson and Pickett, 2009). Basically, the problem is that economically and politically powerful groups will use their own advantages to block less advantaged groups until they themselves have maximised the gains from education at a given level. This is known as maximally maintained inequality or MMI, a term coined by Raftery and Hout, (1993). MMI results in continuing social class-based inequalities in education (Lynch and Moran, 2006).¹² On the positive side, the more equal a society in terms of welfare regimes and employment opportunities, the less differentiated the educational attainments and early labour market outcomes for young people (Iannelli and Smyth, 2008).

While no analysis has been undertaken using the MMI model to examine how gender inequalities are maintained in particular areas of education, it is a relevant concept, particularly in areas of education such as engineering and computer science. It poses the question about who sets entry requirements to the profession and how these requirements are in turn impacting on entry requirements to higher education. If, for example, as is the case in Ireland, one has to achieve a high grade in higher mathematics (in Ireland one has to attain a grade B3 in the Leaving Certificate Higher level Mathematics examination) to enter engineering degrees courses, this automatically discriminates against all those students who do not take the mathematics at higher level and who do not get high grades in these. There is a social class, racial and gender bias in this mode of selection which is often not recognised. First, girls are still less likely than boys to take higher level mathematics courses at upper secondary level in particular (Van de gaer, et al., 2008).¹³ Second, both girls and boys in disadvantaged schools (those with the highest rate of intake from working class communities) are *the* least likely group to take mathematics at higher level (Lyons et al, 2003). Whether one needs a high level of mathematics to do a degree in

¹² Most analysis of inequality in education focuses on inequalities in rates of attainment and performance. There is a 'proportionality test' applied to women and men's participation and achievement rates in education; are rates of attainment etc., equivalent to their proportion in the population etc. While central to the equality debate, this redistributive view of justice, largely ignores issues of recognition and respect for girls and women, issues of power and the role of feminist values and traditions within education (See Lynch and Baker, 2005).

¹³ Within Ireland, for example, in 2008, 54% of those taking higher level papers at leaving certificate level were boys and 46% were girls
http://www.examinations.ie/statistics/statistics_2008/lc_2008_gender_higher_all/

engineering is of course a key issue, but the rules of entry as they stand preclude many interested young women and men (especially from socially disadvantaged class backgrounds) from taking engineering degrees in some countries.

Gender hegemony

Even when schools have explicit gender equality policies, they can inadvertently reinforce a culture of hegemonic¹⁴ masculinity and femininity. Throughout the hidden curriculum, stereotypical images of "good, quiet girls" and "tough, naughty boys" emerge in school discourses, wall displays, stories, and through the attitudes of some teachers. An explicit culture of gender equality can belie a marginalisation of girls in more subtle ways: in the choice of school play that has few female roles, the choice of project topic that favours male interests and in the prioritisation of male-dominated sports which makes girls' sporting achievements relatively invisible (Lynch and Lodge, 2002; Lyons et al., 2003). A number of school-based studies describe how hegemonic masculinity is played out in schools through football where male bonding is accomplished and male "stars" are created (or indeed dismissed) (Connell, 1989; Skelton, 1996, 2000; Renold, 2001; Swain, 2003, 2005).

Conservatism amongst teachers

Furlong et al (forthcoming in 2009) in a study of the attitudes of trainee teachers and teacher educators found that the dispositions of school personnel are largely uncritical in gender terms. Traditional, gender conservative notions of being a "good teacher" or "teacher educator", and traditional understandings of teaching practices dominate educator activity and identity; the status quo remains largely unchallenged. Furlong et al's (2009) findings confirm those of Duru-Bellat (2008) in France: she found that most schools and colleges exist uncritically and compliantly within the social mainstream where gender stereotypes and other inequalities are sustained and reproduced rather than challenged. She also found that the operational life of the school or college day allows little time for reflection on institutionalised inequalities or injustices and this in itself is a problem when realising educational change. The research by Duru-Bellat and that of Furlong, Skelton and others indicates that schools and teachers are limited in what they do in gender terms by a range of competing expectations. Their daily

¹⁴ Hegemony refers to the cultural norms (in this case about gender) that have become accepted as common sense and have infiltrated society to the point that they have become like old wallpaper – always present yet unnoticed in the processes of day-to-day living.

project is about following course work with children, undertaking examination preparation, and working on other measured and visible processes and outcomes in schooling, not just as required by school authorities but also as expected by parents (Giroux, 2002; Skelton and Read, 2006; Duru-Bellat, 2008; Furlong et al, 2009). This does not predispose teachers to be agents of change: quite simply, gender equality is not part of the school test and teachers teach to the test.

Gender identity – enactment and reproduction in education

The dichotomised conceptualisation of gender roles and identities has been examined and challenged in contemporary theoretical and empirical studies. There is a growing recognition that there are multiple masculinities and femininities that change over time, and that these interact with other identities including social class, age, ethnicity, religion and sexuality. Intersectional identities influence gender formation and learning experiences in both education and training (Connell, 1989, 1996; Reay, 1990, 2001; Mac An Ghail, 1994; Walkerdine, 1997; Jackson, 1998; Plummer, 2000; Epstein et al, 2001; Renold, 2001; Walkerdine et al, 2001; Kehily et al, 2002; Weaver-Hightower, 2003; Connell and Messerschmitt, 2005). In effect, the masculine and feminine gender distinctions carry as much diversity within them as they do between them. For example, by focusing on boys' lower attainment, there is a failure to identify and problematise *which* boys are doing badly and *why* that is the case. Yet data from major studies consistently show that there is a group of boys who continue to do well academically and to maintain their social privilege and power in society (PISA, 2006). It is too simplistic to reduce the gender issue to girls versus boys. It is the classed, raced and disability specificity of gendered educational inequality that needs to become the central concern (Reay, 2001, 2002; Gorard, Rees and Salisbury, 1999).

The multifaceted and complex nature of gender identity is revealed through a brief review of the literature on masculinities and femininities below. Here, we attempt to look behind assumptions about problematic aspects of education for indications of how better to understand the gender disparities that are flagged by the statistical data and to move towards pedagogical practice that can better address diverse learner needs and identities.

Masculinities

R.W. Connell (1990, 1995) devised the term "hegemonic masculinity" to describe the multi-layered processes of expressing and preserving male power and dominance through the denigration and subordination of women and gay men. Research by Connell and others (Connell 1995, 2002, 2005; Connell and Messerschmidt, 2005) and that of Kimmel (1995, 2000) and Seidler (2006, 2007) shows how different versions of hegemonic masculinity exist, varying across classes, groups and cultural contexts, yet how the principle of asserting male dominance is central to each. Not all masculinities are equal in status however. While several co-exist at a given time, some are more powerful, particularly in schools where they are constantly and aggressively monitored within the peer group (Mac An Ghail, 1994, 2007; Ashley, 2003; Jackson, 2003). The research from schools suggests that prevailing forms of masculinities tend to valorise dominance-led behaviour (that vary by class and culture) through which femininities and gay masculinities are generally dishonoured, ethnic masculinities are marginalised, sporting masculinities are generally idealised, and ageing masculinities are less respected.

Male peer pressure

There is much empirical research throughout the school system from pre-school to upper-secondary level (and in wider society) that reports the potent influence of the male peer group and its impact on boys' educational behaviour and achievement (McDowell, 2000; Renold, 2001; Martino and Meyenn, 2001; Martino and Pallotta-Chiarolli, 2003; Ashley, 2003). Boys' behaviour in school is more likely to be reported as problematic by teachers, girls and peers; boys struggle to balance achievement against popularity and acceptance based on dominance, among their male peers (Skelton, 1996; 1997; Renold, 2001; Lahelma, 2002). In adolescence in particular, boys police each others' masculinity strongly in terms of dominance-driven heterosexual male norms (Connell, 2005). So-called "laddish" behaviour is one manifestation of dominance-led behaviour. It can be an attempt to avoid the disparagement heaped on those who attend to academic work within particular male peer groups; or it may conceal real academic difficulties, particularly in literacy, and an attempt to preserve self-esteem (Connell, 1987, 2005; Mac an Ghail, 1994; Rowan et al, 2002; Tinklin, 2003). Ultimately it is a complex, socially-situated pedagogical challenge.

Male learner identity

The hegemony of the "effortless but successful" male image, puts boys under considerable pressure to "pass" as non-conforming; many devote considerable effort to strategising around remaining accepted by peers (by not being a "nerd" or a "swot"), which often means underperforming while in school (Connell, 1989, 2005; Martino and Meyenn, 2001; Rowan et al, 2002, Martino and Pallotta-Chiarolli, 2003; Košir and Pecjak, 2005). The issue is that boys have to manage narratives around male identity that strongly permit and prohibit certain behaviours; many of the behaviours that are permitted ("messing" in class) and penalised (being studious) are disadvantageous to learning (Skeggs, 1997:113; Meyenn and Parker, 2001; Lyons, et al, 2003; Martino and Pallotta-Chiarolli, 2003). The peer pressures on certain groups of boys to under-perform may help explain why there are more male than female early school leavers in the EU and elsewhere (CEC, 2008a:123,131) and why boys' literacy levels remain stubbornly low. Research carried out with male adult learners has also cited issues of masculine identity and male peer pressure as impacting negatively on learning literacy (Owens 2000; Corridan, 2002). Owens's qualitative study carried out with five male adult learning groups revealed that reliance on the peer group became even stronger for men who had lost self-esteem through educational failure:

I suppose the slagging¹⁵ in the pub stops people from coming to education. Some people take it personal which puts them off. I'd say that's the main thing that puts people off, the slagging. They say to themselves well I got this far without it. So there's a lot of pull there. You're exposed when you step out of your expected role as a man. Men don't go to college from a working-class background. You get stick from your mates. This gives you a huge fear of failure. It's a huge risk. You lose friends when you step out of your role and class. (Adult male in Owens, 2000:25/26)

¹⁵ "Slagging" is a colloquial term for teasing or verbal deprecation amongst peers.

Femininities

Learning is more than the sum of scores in examination results, and merely focussing on academic performance does not tell the complete story about gender equality for either male or female learners (Gorard, Rees and Salisbury, 1999; Arnot and Mac An Ghail, 2006). To more fully understand the realities of learning for girls we need to examine not just outcomes but also the culture of classrooms and schools to see how gender is lived. Girls may learn to have academic identities more than boys, but they can also learn that the female is an inferior category through the culture of schooling (Reay, 2001, 2002; Gordon, 2006).

Qualitative studies with female primary school pupils have revealed that a number of femininities, some more powerful than others, compete with each other within classrooms (Reay, 2001, 2002; Gordon, 2006). These are influenced by other factors like class, ethnicity, the peer group, and whether the school is single-sex or coeducational. Traditional, compliant (polite, feminine), transgressive ("girl power") and disassociative (tomboys) femininities interact side by side (Reay, 2001). Gendered femininities are monitored and restrained by the peer group and staff who are active in maintaining traditional gender roles and restraining transgressive attitudes and behaviours on the part of girls (Gordon, 2006). Ultimately, middle-class white masculinity is still the most powerful, privileged identity for both boys and girls, and although girls may be doing better in academic terms, all the boys and a considerable number of girls in the research still saw it as better to be a boy (Reay, 2001). The old lessons about gender relations are still being learned in the primary classroom not least because children bring their gendered identities from outside into school.

Female learner identity

Kehily et al's (2002) ethnographic study of 9-10 year old girls' friendship groups found that considerable time and effort was invested in maintaining normative femininity and heterosexuality. This identity allowed for academic diligence and success among female students in a way that it did not for males. Further studies in Finland and England found strong evidence that teenage girls are treated differently and expected to behave in ways that encourage good academic results but constrain personal development and autonomy (Gordon, 2006). When girls try to invade classroom space in an embodied way, their femininity may be questioned. Young women students are expected to be more passive and inactive

than boys, and this is regulated by expectations. Gordon observed that girls in both Helsinki and London were expected to be more still in space, their bodies are supposed to be more contained and their voices quieter. The issue of silence and voice is complex for girls. In order to break out of passive roles and become empowered citizens, girls need to become more actively involved in articulating ideas and opinions, particularly in public spaces. At the same time what successive studies show is that boys demand more "voice space" in the classroom; girls are often interrupted and even silenced (Cameron, 1995). While only a very small number of boys dominate classrooms, and while some girls occasionally dominate class talk time, nevertheless the culture of male dominance in mixed classes is the norm (Howe, 1997; Lyons et al., 2003).

Whereas silence can be oppressive and distressing, some girls in Gordon's Finnish study (Gordon, 2006) showed that they used silence in a more active and empowering way to concentrate on academic achievement and as a form of silent resistance. Nevertheless, it is argued that the long-term impact of these constraints will lead to fear and anxiety for some about becoming active articulate citizens in public places in later life (Arnot and Dillabough, 2000). The work of Fraser (1997) shows how this may subsequently translate into females being confined to "sub-altern" politics, that is to say, women are disproportionately engaged in local or community politics rather than national or international politics.

Findings from a longitudinal study of gender and class are congruent with the views expressed by others that girls' dominant performance in the educational field is not the whole story:

Girls from professional families are doing very well at school and boys from families from lower occupational groups are doing badly. This is often presented as girls' good performance versus boys' poor performance, but this is far from the case. Boys from professional families, generally speaking, are not allowed to fail (Lucey and Walkerdine, 1999; 2000), while girls from lower-income families are not doing very well at all. What has changed, therefore, is the gendered composition of middle class success. (Walkerdine et al, 2001:16)

Walkerdine et al found however, that parental and school pressure on older middle-class girls to perform academically was relentless, irrespective of evident negative signs that this included serious emotional damage, harmful physical effects and great unhappiness.

Gender identity, social class and ethnicity

Whilst a continued focus on gender is important in order to ensure progress towards equality, gender analysis needs to take account of social class, ethnicity and sexuality (Skeggs, 1997; Tinklin, 2001; 2003). Using the Scottish school leaver data, Tinklin (2003) studied gender differences in high attainment. Her work suggests that social class remains the biggest factor contributing to differences in attainment. This finding confirms those of large scale statistical studies and derivative work by econometricians showing that higher educational attainment is closely correlated with social advantage (PISA, 2000, 2003, 2006; Entorf and Minoiu, 2004). However, Tinklin did find that controlling for class, girls performed more highly than boys within each social group. She claims that attitudinal factors offered the clearest explanation for differences *between* gender groups when class was set aside. Girls performed better because they "took school more seriously than boys" (Tinklin, 2003:321). Her findings regarding gendered differences in approaches to schooling are consistent with the Canadian Council of Ministers' study reported above (CCL, 2009). Tinklin's research showed that while every aspect of school culture can influence levels of attainment, the changing values of young women, particularly in relation to careers and employment, rather than differences in schools themselves, impacted strongly on girls' more positive attitude to education.

While gender gaps in academic performance appear very early in school life so do disparities that emerge between and within ethnic groups (Brunn and Kao, 2008). Lappalainen's (2004) ethnographic study in Finnish pre-schools showed that despite a discourse of equality and multiculturalism, hierarchies of expectation existed amongst staff and children in relation to both gender and ethnicity. These assumptions were further mediated by social class: when ethnic minorities were socially privileged, ethnic diversity was interpreted as "cosmopolitanism". This in turn reduced the extent to which gender and ethnicity was viewed as problematic even when it was connected to poorer academic performance (Ibid: 652). While ethnic diversity was viewed as colourful and interesting rather than educationally challenging in a middle class setting, that was not the case for ethnic minority children from low income backgrounds. When ethnicity was associated with poverty it was constructed as a social problem.

Research on femininities and the performance data for female students show that the situation for girls is a complex one. There is a range of female identities that are interrelated with class, race, sexuality and other factors and some girls are outperforming boys in most academic areas. Nevertheless, most gains in performance have been for middle class and upper class, ethnic majority girls while middle and upper class ethnic majority boys continue to attain high levels of success. Girls' success has done little to shift perceptions of male superiority amongst male and female pupils. Furthermore, it has not impacted positively on the percentage of women in positions of authority in work or decision-making bodies across Europe.

Gender implications of tracking and assessment

While essentialist (fixed and innate) understandings of human intelligence and potential have been authoritatively challenged within the field of developmental psychology (Goleman, 1996; Sternberg, 1998; Gardner, 1983, 1993, 1999), yet it is these scientifically invalid assumptions that lead to the early classification of students as having lesser ability in some or all subjects. Such streaming is carried out in the understanding that pupils will receive more appropriate teaching in terms of pace and content, yet this has been shown to be unfounded. Early tracking (streaming or setting) contributes to educational inequality by creating self fulfilling prophecies as learners are taught and perform according to expectations set for them (Boaler et al., 2000, Woessmann et al., 2005)¹⁶. Not only are students likely to stay in the group to which they are assigned, regardless of academic improvement (Ireson et al., 2002), tracking has a negative impact on students in the bottom tracks or streams (Venkatakrishnan and Wiliam, 2003, Wiliam and Bartholomew, 2004). In mixed schools, students from working class and minority backgrounds are most likely to be in the lower streams or tracks (Ireson et al., 2002; Lynch and Lodge, 2002).

¹⁶ In a four-year longitudinal study of mathematics, teachers were found to use a more restricted range of teaching methods and techniques with homogeneous groups than with mixed ability groupings, to the detriment of all learners. At the same time the opportunity to learn from a range of peers was also denied (Boaler et al, 2000).

At least some differences then in gender behaviour and outcomes in schools and colleges can be attributed to systemic trends in streaming that are not related to capability. Countries that have highly selective academic streaming have been found to be disadvantageous to girls and women in mathematics and science (Bedard and Cho, 2007). Also, in a streamed system, boys are disproportionately placed in lower streams or tracks when they are in conflict with authority in school (Jackson, 1998; Kimmel et al, 2007). Not surprisingly, a disproportionate allocation to lower tracks exacerbates early school leaving among boys (Beekhoven and Dekkers, 2005). Girls are also sometimes placed in learning groups for social rather than pedagogical reasons: Hallam et al., (2004) found that girls in primary schools were placed in mixed gender groups as a way of managing group behaviour (girls were seen as having a positive socialising impact on boys) rather than meeting their learning needs. Similarly, a study of disadvantaged schools in Australia found that girls in secondary schools were moved to lower tracks or mixed ability classes to help improve boys' performance in these classes (and raise the performance of boys by moving them in to upper streams with more girls) even though the girls' attainment levels did not warrant their allocation to such tracks (Charlton et al., 2007). Overall, where schools have highly tracked systems in place, they tend to set academic and gendered occupational expectations at an early stage, which are also strongly class and ethnically biased (Charlton et al, 2007; Lynch and Lodge, 2002; Smyth, 2007).

Systems of assessment may impact on girls and women, boys and men differently. There is evidence that academic self esteem is influential in determining performance in examinations, and that girls have lower confidence and tend to under-perform more poorly in traditional examinations compared with continuous assessment in these fields (Lyons et al, 2003; Adamuti-Trache, 2006; Murphy and Ivinson, 2004). However, the link between forms of assessment and gender is highly complex, not least because it is mediated through the differences between subjects and between examiners (Elwood, 2005). For example, while there is UK evidence that girls perform better at course work (project or essay) than boys, and while this has been claimed to explain gender differences in attainment, this argument is weakened by the fact that in some countries where there is little or no coursework assessment, female advantage in attainment persists (Epstein et al, 1998; Smyth, 2007).

The relationship between modes of assessment and gender needs to be further examined because of their serious implications for life chances (Gipps, 2001). For example, there is still considerable uncertainty as to whether different types of tests are gender neutral or not in terms of their impact on attainment (Gipps and Murphy, 1994; Betts and Elder, 2009). Multiple choice tests are especially in need of investigation not least because of their increasing use in higher education (Betts and Elder, 2009).

Gender, immigration and beliefs

The issue of immigration is of major importance in the enlarged EU particularly as member states struggle with growing economic uncertainties. Increased migration and intra-EU mobility flows are both enriching and challenging, particularly in terms of education. In many Member States, migration from both inside and outside the EU has resulted in an average of 10-15% of school pupils who have been born in another country. In Italy, Ireland and Spain the proportion of migrant pupils has multiplied by a factor of three to four since 2000 (CEC, 2008a:2), and schools and teachers have found themselves on a sharp learning curve in matters of multiculturalism and second language teaching.

The children of immigrants face educational disadvantage because of linguistic and cultural differences between home and school, and in many cases a lack of resources to address their specific linguistic needs (EC/NESSE, 2008). In some cases, but not all, the education of migrant pupils may also be adversely influenced by the low socio-economic and ethno-cultural status of their parents in the host society (ibid). These factors have combined to adversely influence the achievement of migrant children in reading, mathematics and science (PIRLS 2006; PISA 2006). Worryingly, disadvantages have been shown to increase in the second generation of migrant children and to lead to disaffection with school and higher proportions of school leaving than the rest of the school population.

Little data exists about the gender aspects of immigration and education in EU-27 but as language, literacy and early school leaving already have a gendered dimension, the likelihood is that there is a similar relationship between gender and performance for immigrants as there is for the general population. Data from Canada and Hungary suggest that this is the case (Anisef et al, 2008; Szalai, 2008). Research with immigrant children in Sweden also found that gender differences in performances followed a traditional gender pattern: girls from immigrant families outperformed boys in primary schools, except in Mathematics where

performances were equal (Böhlmark, 2008). In the US, the major 10-year Longitudinal Study of the Children of Immigrants in California has also found gender differences among the adult children of immigrants. Female adult children of immigrants are more likely than males to achieve high status occupations. They concluded that social class, ethnicity and gender impact on the careers of the children of immigrants; they also noted that immigrants must not be viewed as a homogenous group (Feliciano and Rumbaut, 2005).

Families of diverse ethnic and belief backgrounds may also hold different perspectives on gender equality. Recent research from Germany shows that there are quite significant differences not only between secularist and religious groups in their degree of adherence to gender equality principles, but also between people from different cultural traditions regardless of religiosity (Diehl et al., 2009). Across Europe, different standpoints have been taken on public displays of religious symbolism in schools that vacillate between the rights-based claims of religion and cultural minorities (e.g. around the wearing of the hijab or veil), to counter rights-based claims by secularists and women's groups that common schools and public institutions must remain free of the symbolism of religious beliefs (Fekete, 2004; Ghodsee, 2007; Kılıç et al, 2008). An intense debate is also taking place about the relationship between religion and education *per se*, which is quite separate from gender (Coulby, 2006; Diez de Velasco, 2007; Davie, 2006; Demerath, 2008; Halstead, 2007; Kymlicka, 2003), although it has gender implications in the longer term. The interface between gender and sexuality, beliefs/religion and education is a major subject in itself and could be a subject of a separate report. It merits attention given the rising interest in and conflict over, issues of religion and beliefs within education in different states.

Gender imbalance in teaching staff

Teaching in schools, and in many areas of post-compulsory school education, is primarily carried out by women. Nevertheless, positions of power and decision-making are still disproportionately held by men (Blackmore and Sachs, 2007; Drudy, 2005; United Nations Economic Commission for Europe (UNECE, 2009). This creates the paradoxical situation of a field regarded as "women's work" that is largely defined and controlled by men (Drudy, 2005).

The gender of teachers varies according to educational sector and figures sometimes reflect considerable disparity between states. Nevertheless, there is agreement that in EU-27 women outnumber men (at around 70%) in primary and secondary schools and that this trend reverses in tertiary education where men outnumber women (at around 60%) (Eurostat, 2008). In all educational sectors, women are underrepresented in management positions. The highest number of primary principals is in France (65%) and in the secondary sector Sweden has over 40% female principals compared with only 19% and 18% respectively in Luxembourg and Austria (Drudy, 2005). Men are underrepresented in the classroom throughout the entire compulsory schooling period. As a general principle, the more prestigious and well paid the post, the less likely women are to inhabit it (Drudy, 2005; Eurostat, 2008).

The trend described above is a potent conduit for messages about gender, care and power that communicate across the education system. This gender script both reflects and strengthens a gender and a care scenario that is profoundly unequal. It shows women teachers over-represented in positions of lower status that are care-identified, and men concentrated in higher-paid, higher status positions that hold greater influence in policy and decision making.

Also, the culture of some educational organisations, especially those in higher and further education, is not especially hospitable to women, especially those who are older and who have care responsibilities, be they learners or lecturers/teachers (Blackmore and Sachs, 2000; Ozga and Deem, 2000; Grummell et al, 2009a, 2009b).

In response to the perceived under-achievement of boys there has been renewed attention given to the gender of primary and, less so, secondary school teachers (Gannerud, 2001; Einarsson and Granstrom, 2002; Skelton, 2002; Ashley, 2003; Drudy, 2005; Smedley, 2007). The claim is made that the absence of male role models for boys in schools creates a feminised and "feminising" environment of education. Martin Ashley (2003) brings a note of caution to the argument that having more male teachers is good for boys. He claims that having an increased number of male teachers may be of value "only if ... [they are] committed to equality and the deconstruction of hegemonic masculinity" (ibid: 267).

While the under-representation of male teachers is now receiving much attention, similar consideration needs to be given to the absence of women at senior management levels, especially when the majority of women are teachers. The scarcity of ethnic minority, disabled, working class or other minority identity groups within teaching also needs to be addressed if role models are deemed to be important and diversity is to be accommodated (Adair et al, 2007).

Levels of critical thinking about gender in teacher education

The role of teachers in the maintenance or challenging of gender stereotypes is highly influential. Yet little time is allowed for reflection or learning about gender matters in teacher education programmes (Iverson et al, 2000). Furthermore, research carried out with trainee teachers and teacher educators describes the (future) teaching profession as largely uncritical and disinclined to challenge the status quo or traditional gender roles in education or wider society (Coffey and Acker, 1991; Cammack and Phillips, 2002; Smedley, 2007; Furlong et al, 2009).

In the US, a small intensive study of Master's students participating in a range of individual written exercises and group discussion about what it means to be a female or male teacher in the classroom offers some revealing insights from that cultural context. From multiple data sources, two main discourses emerged that illustrated the gender identity of pre-service teachers. The majority of the students described teaching as "acceptable women's work" rooted in women's assumed "innate" nurturing capacity. At the same time, student teachers wrestled with aspects of "patriarchy" as it operated across both their professional and private lives. In a critical examination of their own practice, the tutor educators/researchers concluded that in 'what is already the crowded frantic pace of many teacher education programmes' the evident relationship dilemmas of young teachers are being silenced and the traditional gender order sustained (Cammack and Phillips, 2002:131).

In a range of national and EU policy initiatives, teacher's attitudes and practices have been singled out as significant influences on gender equality, in terms of both the formal, informal and hidden curriculum (CEC, 2001; 2008). In practice however, sexist comments and behaviour amongst pupils and teachers is often met with silence and goes unchallenged (Acker and Oakley, 1993; Lynch and Lodge, 2002; Tallberg Broman, 2007). As early as pre-school, gender stereotypes have been found to be treated uncritically in a culture of assumed equality. Research in Finland by Lappalainen (2004) found that pre-school staff expressed a

willingness and interest in improving gender equality but lacked the training to implement these wishes:

... a clear challenge for early childhood teacher education is the implementation of a pedagogy that encourages the problematisation and deconstruction of divisions and categories based on essential and interwoven ideas of gender and ethnicity (Lappalainen, 2004: 653).

Teachers, gender and care

Swedish research that examined attitudes to gender and care in the professional and private lives of 20 experienced female primary school teachers also highlights how deep-rooted gendered codes are (Gannerud, 2001). The study found that although gender *per se* was not viewed as an important issue among the experienced primary school teachers, the gender regime in their schools followed the patriarchal patterns in wider society and female teachers were implicated in the reproduction of these traditional arrangements. Gannerud also found that teachers who were mothers felt more valued by parents but were also open to criticism because they were in employment; teachers who were not mothers were seen to have the total time to teach *and care* but were not seen as having as good mothering skills. It would appear that female primary teachers are expected to be women (mothering) and to contribute to the emotional well being and development of children as well as to teach them. The core socio-emotional dimension of teaching was both burdensome and satisfying for all of the interviewed teachers. Yet the teachers felt that the socio-emotional demands of the job were "barely visible in the official organisation of schooling" (ibid: 62).

One reason why teachers may not challenge the gender order in school is suggested by Cammack and Phillips (2002). They found that critical reflection and learning about gender is not resourced for pre-service or in-service teachers. Gannerud's (2001) findings revealed a lack of fit between the explicit rhetoric of gender equality of government policy, the implicit gendered division of labour in schools and the largely gender-conservative attitudes and behaviour of many parents. Furthermore, Cammack and Phillips work (2002) showed that teachers may have limited gender equality knowledge or training. It would seem that ambiguous and often contradictory messages are being communicated to school children regarding gender equality.

The failure to address the way in which teachers are expected to be emotional workers as well as intellectual workers is also seen as a denial of the feminine within educational policy (Gannerud, 2001). Yet, the role of emotional work within teaching, and the importance of understanding the place of emotions in learning, have been emerging in recent years as important questions within all levels of education (Beard et al., 2007; Cohen, 2006; Hargreaves, 2000, 2001; Lynch et al., 2007; McClave, 2005; Mortiboys, 2007; Noddings, 1992, 2006, 2007; Nussbaum, 2001; O'Brien, 2007).

Teacher gender and sexuality

Sexuality is increasingly recognised as a gender-related issue in teacher identity (Epstein, 1994, 2001; Mac An Ghail, 1994; Connell, 2000, 2002, 2005; Lynch and Lodge, 2002; Epstein et al, 2001, 2003; Gowran, 2004). Yet, there are high levels of regulation of sexuality in schools, both for pupils and teachers, with heterosexuality being assumed. This leaves lesbian, gay, bisexual or transgendered (LGBT) teachers at risk, particularly where proscriptive belief systems support narrow interpretations of gender identity. Recent research from Ireland shows that the failure to recognise lesbian and gay identities in schools results in a culture of fear, negative stereotyping and discriminatory and bullying behaviour that impacts on both teachers and students (O'Higgins-Norman, 2009). While Ireland, like many other EU countries, has equality legislation, it is not particularly robust. Across Europe LGBT teachers find themselves in difficult situations which almost inevitably results in them remaining closeted and silenced. The closeting of teachers, in turn, deprives LGBT students of much-needed role models and reproduces a hierarchy of acceptance in terms of sexual identities (Forest, 2000).

Teaching, learning and gender

Teachers are major players in the formation of educational identities, and the efficacy of teaching has been shown to have a significant impact on aspects of gendered behaviour in school. In particular, the literature suggests that the educational formation of boys (in learning literacy) is especially sensitive to the success or otherwise of teaching (Connell; 1989; Rowan et al, 2002; Tsouroufli, 2002; Kimmel et al, 2005). A debate has also taken place as to whether the gender of the teacher matters in terms of learning for different gender groups. There is some evidence that women's maths performance was higher when they were taught by competent women teachers (Marx and Roman, 2002). A large

scale study in Baden-Wuerttemberg (Germany) of 21,000 students in 900 classes also found that girls who were taught mathematics in secondary schools by female teachers scored 7% higher than girls taught by male teachers, (Lorcher and Meier, 2000 cited in Kessels, 2005:320). Kessels suggests that the female gender profile of the teachers may have helped reduce the masculine stereotype of mathematics (ibid). However, it is not clear from these studies how much of the difference in attainment can be attributed to the gender of the teachers *per se*, and how much can be attributed to differences in teaching quality. Without controlling for the quality of teaching, and the attitudes of teachers regardless of gender, it is not possible to claim that the gender of the teacher is a defining factor in terms of school performance.

The growing marketisation of education - gender implications

Many states throughout the world, particularly those within the Anglo-American zones of influence, have been promoting a more marketised and privatised approach to the funding of education in recent years. While the rationale for such marketisation is often critiqued from a social class perspective (Ball, 2000, 2003, Lauder, et al., 1999, Slaughter and Leslie, 2001) less attention has been given to the gender implications of the commercialisation and privatisation of education. Yet, we know from research across a range of countries that commercialisation is normalised and its operational values and purposes have been encoded in the systems of all types of universities (Dill, 2003, Dill and Soo, 2005, Steier, 2003). In Australia in particular the commercialisation of higher education in particular has had significant gender implications that disadvantage women (Probert, 2005).

Furthermore, research suggests that an educational culture premised on performativity appraised in terms of narrowly defined measures of achievement is not likely to be helpful to the advancement of women to senior positions (Acker, 2006, Bailyn, 2003, Benschop and Brouns, 2003; Deem et al., 2007, Grummell et al., 2009a). While "restructuring" and new public service management discourses give the impression that they are gender and care neutral, and even meritocratic, the reality is otherwise (Acker, 2006; Blackmore and Sachs, 2007). The highly individualised entrepreneurialism that is at the heart of the new academy has allowed a particular "care-less" form of competitive individualism to flourish (Slaughter and Leslie 2001). Within higher education, there are global opportunities for mobile transnational academics, but the expectations of performance that govern these posts, and set the gold standard for leadership in the academy, are those that only a *care-less* worker can fully satisfy (Benschop

and Brouns, 2003). Given the gendered order of caring, senior appointments are likely to be available only to those who are "care-less", and these are likely to be very particular types of men (disproportionately), and women.

Although the research on marketisation and commercialisation tends to focus on higher education, the commercialisation of education is not confined to this area of education, especially outside of Europe (Hill, 2005). Moreover, there are many forms of commercialisation operating within secondary and primary schools (Ball and Youdell, 2008) that could have gender implications. The gender impact of privately-run faith-based/religious-run schooling also needs to be analysed. Overall, the gender equality implications of private and/or commercial forms of governance for all sectors of education need to be assessed in terms of EU benchmarks.

Promoting gender equality in education involves promoting equality in the culture and processes of schooling. A caring, non-hierarchical and respectful school system not only raises retention rates for both boys and girls, it also promotes positive attitudes to learning that sustain people educationally in adult life; it encourages lifelong learning. Countries that have highly selective academic streaming have been found to be disadvantageous to girls and women in mathematics and science. Schools that stream generally have higher rates of early leaving. Working class boys are more likely to be allocated to lower tracks and this exacerbates early leaving. The link between forms of assessment, streaming and gender is highly complex and needs to be researched in much more detail. Schools need to recognise all forms of ability if they are to be gender inclusive. Women are disproportionately under-represented in management roles at all levels of education. This sends out the cultural message to students that women are suited to lower status jobs (classroom teaching) while men are there to manage and fill higher status positions. The ways in which the religious ethos of schools impacts on gender equality, particularly for girls, needs to be researched due to the rise in faith-based schooling in a number of countries. Schools and teachers are not assessed in terms of their gender equality practices, and teachers only teach to the test. Schools and teachers need to be incentivised to promote a culture of gender equality. The growing marketisation of education has serious gender implications. It has already been shown to have disadvantaged women in higher education.

CHAPTER 3. CONCLUSIONS AND POLICY RECOMMENDATIONS

After decades of attention to gender matters in the EU, there are important achievements. Across European schools and third-level colleges there is much greater awareness of gender equality as an educational issue than there was in the past. Women have greatly increased their levels of attainment in education, surpassing men in their rates of attainment in public examinations in many countries. In addition, women's participation and achievements in male-defined subjects have been significantly enhanced.

However, gender inequalities still remain, most visibly in girls' low rates of participation in fields of MST and in boys' (notably working class boys, and boys from particular minority backgrounds) lower rates of attainment in literacy; social class, ethnicity and minority statuses compound gender differences and inequalities in attainment¹⁷. Gender stereotypical subject choices and occupational choices are also very much in evidence: MST courses are predominantly male in profile and courses with a care bias are disproportionately female. Boys and men are underrepresented in education, health, welfare, and the arts and humanities (Bradley, 2000, Smyth, 2005; 2007). However, some areas that were previously male domains, like medicine and law, have become increasingly feminised. These preference adjustments over time expose the social roots of gendered choices (and outcomes) in education. Cross-national differences are also proof of the fact that cultural rather than gendered curriculum imperatives are in operation and that change is possible (Smyth, 2007). There is merit in charting more precisely how these changes in the gender profile of subject disciplines and occupations have come about.

¹⁷ The underachievement of some working class and minority boys is not a new phenomenon in education however. Moreover, middle-class white male identity is still highly privileged, and the most likely identity to lead to high paid, high status positions in European society.

Both cultural and organisational factors contribute to gendered subject choices. Opportunities to study non-traditional subjects, for both girls and boys, depend on their availability and timetabling in particular schools and this can be reflective of a traditional or innovative gendered ethos. While schools either facilitate or inhibit non-stereotypical gender choices in terms of how they organise their curriculum, it is the gendered perception of subjects and the careers that appears to be a decisive factor in framing choices. The influence of peers, family and teachers in making subject choices is highly significant (Darmody and Smyth, 2005).

Gender inequalities are also evident in the exercise of authority and power as men hold a disproportionately high number of senior (and higher paying) posts at all levels of education. Moreover, pedagogical practice from pre-school across the education and training fields, exhibits gendered expectations of learners. Overall, there appears to be an absence of deep understanding as to how to break with stereotypical traditions and practices. This is both a cultural and an educational concern.

Ultimately, the gendered and care inequalities that constrain girls and women are stubbornly intact. There is considerable evidence that these are having a major impact on the promotion of women in higher education, especially in highly competitive, marketised systems (Acker, 2006; Bailyn, 2003; Blackmore and Sachs, 2007). Even when women enter male-dominated fields like engineering they are still type-cast as females with a care duty, and if they proceed to act like "masculine" men, they are socially sanctioned for this (Powell, Bagilhole, Dainty, 2006). Women's socialisation into care-related roles also propels women even within fields like engineering to seek out its personal dimension, its altruistic relevance in a way that does not apply to the same degree for men (Sagebiel and Dahmen, 2006). Powell et al. (2006) suggest that having a critical mass of women within a male-dominated field like engineering will only make that field more accessible to other women if those women within it challenge the male norms rather than merely "fitting in". Such challenges carry considerable personal costs for those involved (ibid).

All in all, the formation of gender identity, and the formation of the gendered attitudes within a given culture is a complex and ever-changing process. Gender inequality is difficult to understand in isolation from other cultural, political, economic and affective factors. It is perhaps in this wider equality and social justice context that gender can most usefully be addressed (Baker, et al., 2004).

The moral imperative on women to care and the cultural imperative on men to be dominant – educational implications

Care labour is unequally divided between women and men, and care and all its associations are construed as feminine¹⁸. The literature attributes a range of consequences to this gendering of care including what comes to be identified as male or female-defined interests in education and in work. For young boys, the cultural emphasis is on dominance and being in control. In pre-school provision, the behaviour and interests of young children are still constructed around traditional gender roles and this is reflected in play, toys, dress, language and inequitable cultural expectations about the future. Stereotypical gendered expectations are also widely reflected in the new media, in computer games and toys, which are especially marketed to boys and young men with a strong focus on competition, dominance, and, in many cases, on virtualised violence. In mainstream culture, young men are more often defined as apprentice "breadwinners". It is not surprising therefore that they express different learning preferences to those of young women. The distribution of women teachers and male principals reinforces the message of male leader/principal and woman carer/teacher. And even when women return to education as mature students they are constrained in adulthood by the hands-on demands of care (Alsop,

¹⁸ Because human beings are fundamentally interdependent, and at times highly dependent, care work will always have to be done (Kittay, 1999). Being cared for is not only a prerequisite for survival however, it is also a prerequisite for human development and well being (Engster, 2005). There are moral imperatives on women to be the default carers in society that leads to them choosing subjects and courses that direct them down a care-related road (O'Brien, 2007). Men, on the other hand, are subject to one predominant imperative, to care via "breadwinning"; they are not morally or socially impelled to do the "hands on" caring that women are expected to do, nor are they socialised into altruistically-defined fields of scholarship that lead on to caring occupations (Hanlon, 2009). These highly gendered identities which hold true not only in Europe but throughout most of the world (Daly and Standing, 2001, Harrington Meyer, 2000, Lynch, Baker and Lyons, 2009) impelling women and men to take up different jobs and career trajectories.

Gonzalez and Kilkey, 2008). Not only are women socialised to care, there is also some evidence that they are encouraged to be more silent and compliant; in contrast, boys' greater demands for attention and their high level of agency is facilitated in schools. The impact of these combined processes means that fewer women occupy high posts in education or elsewhere and so their gains in educational attainment do not translate into career and economic benefits. Power and decision-making remains a largely male preserve and so the cycle of female disadvantage in power and income terms is perpetuated.

As not all men can be leaders, given the scarcity of such positions by definition, there is also an issue as to how the dominance and "breadwinner" narratives impact on men's emotional and personal development, and how failure to achieve the stereotypical male ideal impacts on men's health and well being. The equation of masculinity with dominance is regarded by masculinity studies scholars as highly problematic for men and boys (Connell, 1995, Hanlon, 2009; Kimmel, 2000; Kimmel et al., 2005).

To say that women are constrained by care is not to deny its importance (Kittay, 1999). Indeed educational understanding of care and love work (both in the primary care sphere and in education itself) is at a relatively basic level despite growing evidence of its importance in facilitating learning in school (Hallinan, 2008). There is a need to recognise care as work (Pettinger, et al., 2006), educate men and women for care and love work (not just when they are becoming professional care workers) while simultaneously challenging its exclusive association with femininity.

Affective relations are only beginning to be recognised as a critical part of the learning process and a necessary part of the knowledge base (Beard et al., 2007; Feeley, 2009; Hargreaves, 2000, 2001; Lynch et al, 2007; O'Brien, 2007, 2008). There are innovative Social and Emotional Education programmes that have recognised the neglect of inter-personal and intra-personal intelligences in education, and the need to address development in a holistic manner (Cohen, 2006, Gardner, 1993; 1999; Goleman, 1996; Sternberg, 1998). Moreover, there is evidence that socioemotional education has contributed to a reduction in gender-related violence (Diekstra and Gravesteyn, 2003; Diaz-Aguado, 2006).

Attention to the emotions in learning reflects a turn towards care in the school regime and an increasing concern with well-being and happiness as preconditions for learning (Noddings, 1992; 2003; Tomlinson, 2008). This recognition of schools and colleges as affective as well as academic enterprises (Lynch and Lodge, 2002:11) directly resists and challenges the increasing marketisation of education and the growing climate of new managerialism where measuring up to market norms of performance has increasingly occurred at a care cost (Apple, 2001; Blackmore, 2002; Davies, 2003; Tomlinson, 2008; Grummell et al, 2009a). The recognition of the affective world of emotional work involved in teaching and learning also provides an environment in which the gendered nature of care can be critically discussed and challenged with male and female learners to everyone's advantage.

The contention here is that a focus on care may well provide the means of attacking the root of gender inequality and its persistence across all levels of education and training.

Gender and Education – Key messages and policy recommendations

This report is a review of international research evidence on the relationship between gender and education, focusing especially on the Lisbon objectives and EU benchmarks. It provides a critical, empirically and theoretically-informed analysis of how gendered identities relate to educational processes and outcomes. It summarizes existing research and outlines the policy lessons and measures that are shown to contribute to greater equality between women and men, boys and girls in education. The principal findings are outlined below.

1. General Gender Issues

- a) The European Union has a strong track record of promoting gender equality within employment. However, promoting gender equality in education is not a listed priority in the *Roadmap for Equality for Women and Men, 2006-2010* (2006a). **Policy implications and recommendations:** The promotion of gender equality in education needs to be a key strategic objective in the development of a new Roadmap for Equality between Women and Men in Europe.

- b) Within the EU, gender equality policies in education have focused strongly on equalising women's participation in Mathematics, Science and Technology (MST) with that of men. The male definition of success is taken as the norm; equality for girls and women is measured in terms of their degree of adherence to that norm. **Policy implications and recommendations:** While equalising female rates of participation in MST is important, gender equality in education is a much wider and more complex issue; it involves problematising men's relationship to all types of care work as well as women's relationship to MST. The EU needs to promote educational programmes that challenge stereotypical masculine identities as well as feminine identities.
- c) Gendered identities are socially constructed and multivalent – they intersect with social class, ethnicity, religion, culture, disability, sexuality and age. One is not just a girl or boy, a woman or a man but a girl/boy of a particular culture, social class, age, etc. **Policy implications and recommendations:** Gender equality policies in education need to be designed in a way that recognises how social class, ethnic, cultural, disability and other status differences impact on gender outcomes. Girls and boys, women and men must not be treated as homogenous categories in policy terms.

2. Performance and Retention

- d) Changes in gender performance have been taking place over time. One can see this clearly in the rise in women's performance in the sciences in many EU countries over the last 20 years. Good, well-resourced teaching is effective in promoting change. **Policy implications and recommendations:** High quality public education is effective in promoting gender equality for the greatest number of people; the EU needs to encourage member states to ensure that public education is the best education on offer.
- e) Despite making considerable progress against the Lisbon benchmarks, gender inequalities persist in education in terms of subject preferences and performance, and in qualitative aspects of the education and training experience. These gender gaps vary across the EU-27 where averages can conceal divergent extremes.

- f) Middle and upper class girls and boys, men and women are the highest achievers in education across all EU countries. Low educational attainment is primarily a social class problem that is exacerbated by ethnicity, migration, language differences, gender, disability and other statuses. ***Policy implications and recommendations:*** 1) the EU needs to promote equality throughout society as more equal societies have fewer gender discrepancies in education and training; 2) simplistic accounts of gender differences in performance are misleading in policy terms and need to be replaced by more nuanced analyses; 3) gender equality policies need to focus on the low attainments of working class boys and girls, while recognising their unique ethnic, disability, linguistic or other statuses; 4) all EU countries need to promote high quality public education with excellent well-resourced teachers and care support services if they are to improve the performance and retention of non-traditional achievers as the latter are highly dependent on good quality public education.
- g) Literacy standards in general are falling throughout the EU. Boys from working class backgrounds in all ethnic groups are the most likely to have literacy difficulties. ***Policy implications and recommendations:*** There is an urgent need to address literacy difficulties especially in the context of increased migration. A positive Literacy Action Plan needs to be put in place within the EU, with clearly defined targets, timeframes and resources, to enhance literacy among all disadvantaged groups, but especially among working class and ethnic minority boys and men.
- h) Boys are more likely than girls to leave school early although the major disparity in early leaving is between working class and middle class students generally, especially boys. In some countries working class boys are also disproportionately from ethnic minority backgrounds. ***Policy implications and recommendations:*** A range of preventative and compensatory strategies that involve family support, school supports, alternative schooling, and direct financial incentives should be put in place in each country to forestall and address early school leaving; in addition, alternative education to mainstream schooling should be available where early leaving has already taken place.

- i) There is a slight average performance gap in favour of boys and men in mathematics, science and technology (MST). At third and fourth level, the under-representation of women in MST becomes more pronounced and women are in the minority in engineering (18%) and technology (20%). ***Policy implications and recommendations:*** The methods successfully employed in certain EU countries to enable women to perform as well as men in MST need to be disseminated systematically. A Transfer of Knowledge Programme on effective methodologies for enhancing women's participation and success in MST needs to be established between EU states.

3. Participation in Non-traditional fields

- j) Women are under-represented in mathematics, science and technology. Men are under-represented in arts, humanities and in all areas of work that have a care-related dimension, including nursing, primary school teaching and child care. ***Policy implications and recommendations:*** To overcome gender stereotypical subject and career choices, there needs to be: 1) systematic mainstreamed education regarding gender and gender stereotypes for girls and boys, men and women at all levels of education throughout Europe; 2) gender education needs to be a compulsory part of professional degree/diploma/certificate programmes in both further and higher education 3) women-welcoming MST programmes need to be developed in all EU countries at upper secondary and higher education levels as research shows they are effective in increasing women's participation at these levels.

4. The Culture of Subjects and Occupations

- k) Subjects have a durable gendered identity: This is equally true of different occupations and professions: child care and nursing have strongly feminised identities in most cultures: engineering and carpentry have strongly masculinised identities. ***Policy implications and recommendations:*** 1) The masculinised culture of the MST professions/occupations needs to be addressed through ongoing compulsory education on gender issues during professional training and education; 2) MST professional associations need to be incentivised to be more gender inclusive in their training programmes and in the types of courses they recognise for professional education; 3) entry and professional recognition requirements in all MST occupations need to be

gender proofed; 4) there needs to be a systematic EU programme to promote caring occupations among men; 5) more sustainable access and retention programmes are necessary to promote women's participation in MST.

5. Role of Teachers and Schools

- l) The attitudes of teachers and teacher educators to gender issues are frequently conservative and uncritical; such attitudes reproduce traditional gender stereotyped ideas and expectations unproblematically. Most teachers do not learn how to promote gender equality (or equality generally) in schools, and they are not evaluated on the degree to which their learning relationships contribute to gender change or social justice. ***Policy implications and recommendations:*** All teacher education programmes (from pre-school to higher education) should have a core module on gender equality. Teachers should be assessed in their equality practices during pre-service and in-service education programmes. Appraisal of qualified teachers should include appraisal of their equality practices.
- m) Although not the sole influence on the formation of gendered identities, schools and colleges are key organisational players; they can be part of the problem or part of the solution. ***Policy implications and recommendations:*** 1) All schools and colleges should be required to have equality policies that are publicly available with clear gender equality goals; 2) the outcomes of equality policies need to be monitored and an "Equality Score Card", should be publicly available for all schools, colleges and universities, and for each department within larger education institutions; 3) a promotional post of responsibility for gender equality should be created in all schools and colleges.

6. Role of Parents, Peers and the Media

- n) Schools are porous institutions and do not operate outside of the prevailing cultural milieu where they are located. Consequently, parents and peers play a crucial role in framing subject preferences and job/career preferences. ***Policy implications and recommendations:*** 1) changing the attitudes of parents and peers is as crucial for challenging gender stereotypes as is changing the attitudes of teachers; 2) Adult and Community education programmes need to be resourced in all countries to counter pervasive sex

stereotyped views of subjects and occupations; 3) there needs to be a more imaginative and systematic EU plan for using new media technology to promote gender equality, and in particular to counter the strongly gender stereotyping promoted by merchandising of children's toys, games, clothes etc, on all forms of new media. The use of the internet to educate about gender equality is crucial, including the use of social networking sites.

7. Gender, Commercialisation and Privatisation

- o) The implications of the growing marketisation and commercialisation of education in some countries, particularly of higher education and research, has important gender implications that need to be examined. The highly competitive, macho culture which marketisation promotes is not likely to enable women to advance in fields of research, and/or to professorial or senior management levels in higher education as it is increasingly premised on the assumption that one is not a primary carer (one can work 24/7). ***Policy implications and recommendations:*** There needs to be research on the gender equality implications of the commercialisation of education and research, particularly its implications for students and staff in further and higher education where commercialisation is most prevalent.

- p) Commercialisation in education is often equated with privatisation. Yet, these processes are not synonymous. Many privately-controlled schools and colleges in Europe are not commercial, most notably religious-run schools and colleges. ***Policy implications and recommendations:*** The EU needs to promote research on the gender quality implications of religious-controlled/faith-based education as little is known about this issue.

8. Education about Gender Matters

- q) Education is, in and of itself, a resource that needs to be used to promote greater gender equality; education about gender relations is vital to overcome traditional stereotypes and to promote a greater equality between and men. ***Policy implications and recommendations:*** 1) All school and college programmes, from pre-school to university, including professional and occupational training courses, should involve a core module on gender equality; 2) schools and colleges need to create safe educational spaces (e.g.

within Relationships and Sexuality programmes) where issues of gender identities can be explored and discussed in a supportive non-judgemental manner; 3) teachers need to be resourced and trained to offer gender education that challenges stereotypes; 4) as noted in No. 6 above, the media is also a tool for gender education that needs to be utilised.

9. Role of Research and Data Analysis

- r) The promotion of equality between women and men is a core EU objective under the Amsterdam Treaty. Yet, there is no research strand on gender issues in the EU's major research programmes. Also, there is no standardised system of data collection (indicators) on equality in education across Europe. **Policy implications and recommendations:** To promote gender equality, and in particular understand as to how it can be achieved, the EU must: 1) fund research on the gender and related inequalities more systematically within its major research programmes, and 2) devise standardised systems for data collection on gender and other identities (including social class, ethnicity, beliefs, disability, age, sexuality, carer status, migrant/citizenship status) involving stakeholders, grassroots organisations and social partners.

10. Care, Education and Gender

- s) Throughout the world, including Europe, femininity is equated with caring and women are defined as primary carers; masculinity is equated with "breadwinning" and dominance, and men are defined as relatively "care-free" in the primary care sense. The gendered care codes are ubiquitous: they are lived out daily in the work of the women who run crèches and the men who run parliaments. Even when women enter male-dominated fields such as engineering they are disproportionately employed in tasks such as human resources that involve doing emotional work.
- t) The gendered character of different occupations operates as an anticipatory form of socialisation that influences young girls' and boys' subject choices, and job/career choices. A focus on care inequality is required to get to the root of gendered inequalities in education and employability. **Policy implications and recommendations:** 1) The valorisation of work that women do matters to enhance the status of the feminine; 2) care work needs to be supported

financially (including paternity leave), and made occupationally viable where it is a designated occupation. Otherwise women will remain the default carers in society, and both women and men will continue to choose stereotypical subjects and occupations; 3) all school children, from primary through second-level, should be educated about caring and human interdependencies and dependencies in the relevant education programmes in different EU states.

Concluding Remark

Education policy makers need to ensure that gender equality is a real rather than a rhetorical priority and that change is substantively resourced in teacher education and in school practices.

Ultimately, to fully comprehend the status of girls and boys and women and men in education, it is necessary to examine the interface between educational expectations and practices, and future assumed social roles. Throughout the world, including Europe, femininity is equated with caring and women are defined as primary carers; masculinity is equated with "breadwinning" and dominance, and men are defined as relatively "care-free" in the primary care sense. The low pay (or no pay) and status attached to primary hands-on care work, and the moral imperative on women to do this work, means that women are society's default carers at considerable financial, health and social costs to themselves. The net educational impact of the moral imperative on women to care, and the social imperative on men to be dominant, is that it creates anticipatory forms of socialisation that influence subject choices and job/career choices and chances for women and men. The gendered care codes are ubiquitous: they are lived out daily in the work of the women who run crèches and the men who run parliaments.

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ANNEXES

Annex 1: Gender and Decision Making in the EU

Figure 1: Gender and Decision-Making in the EU

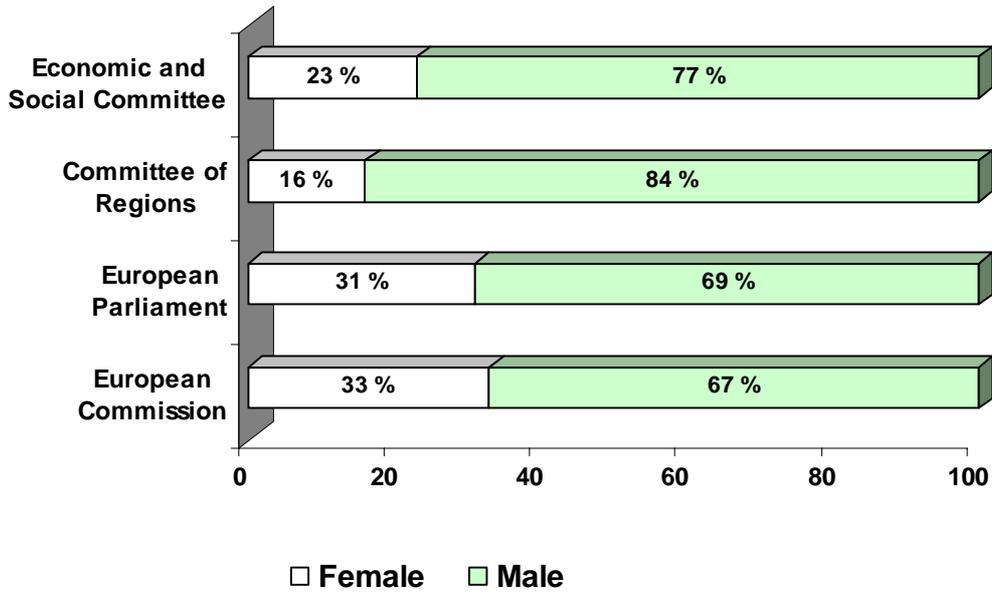


Figure 2: Gender and Ministerial Position in EU Member States

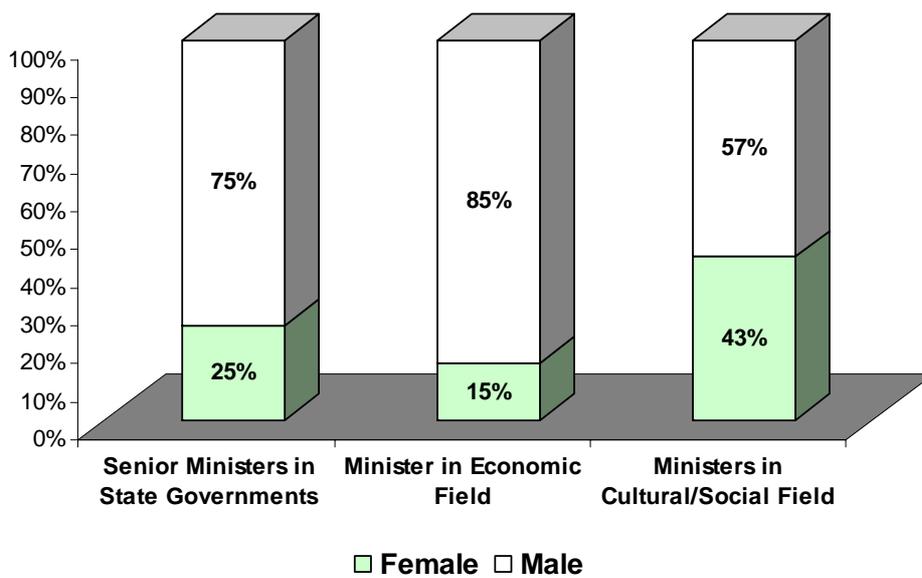


Figure 3: Gender of Prime Ministers of the EU Member States (N=27)

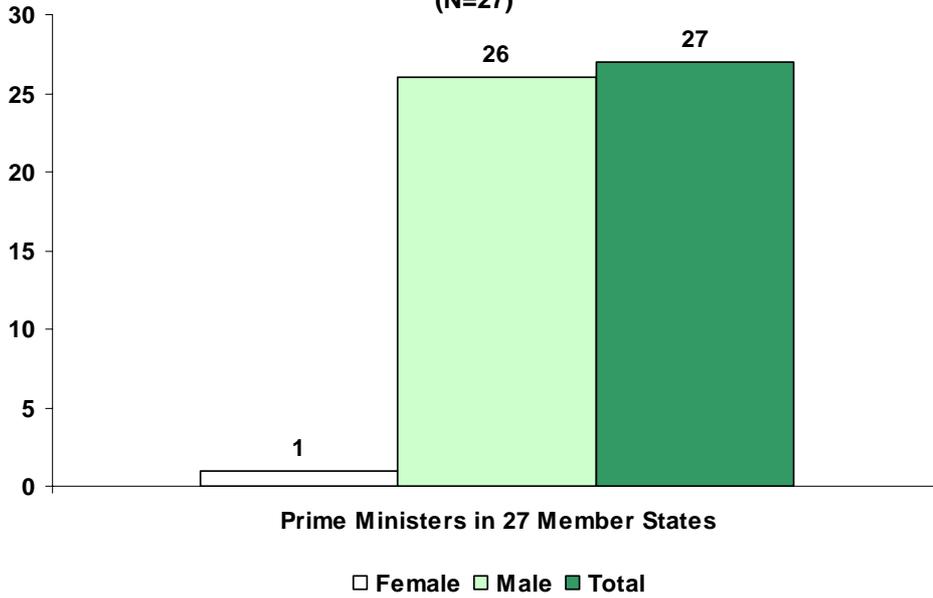
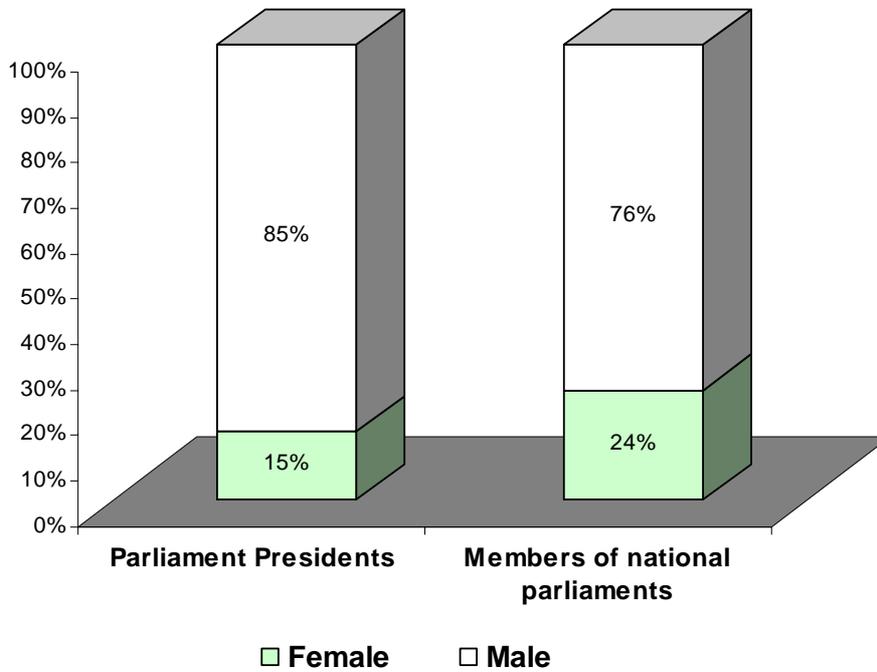
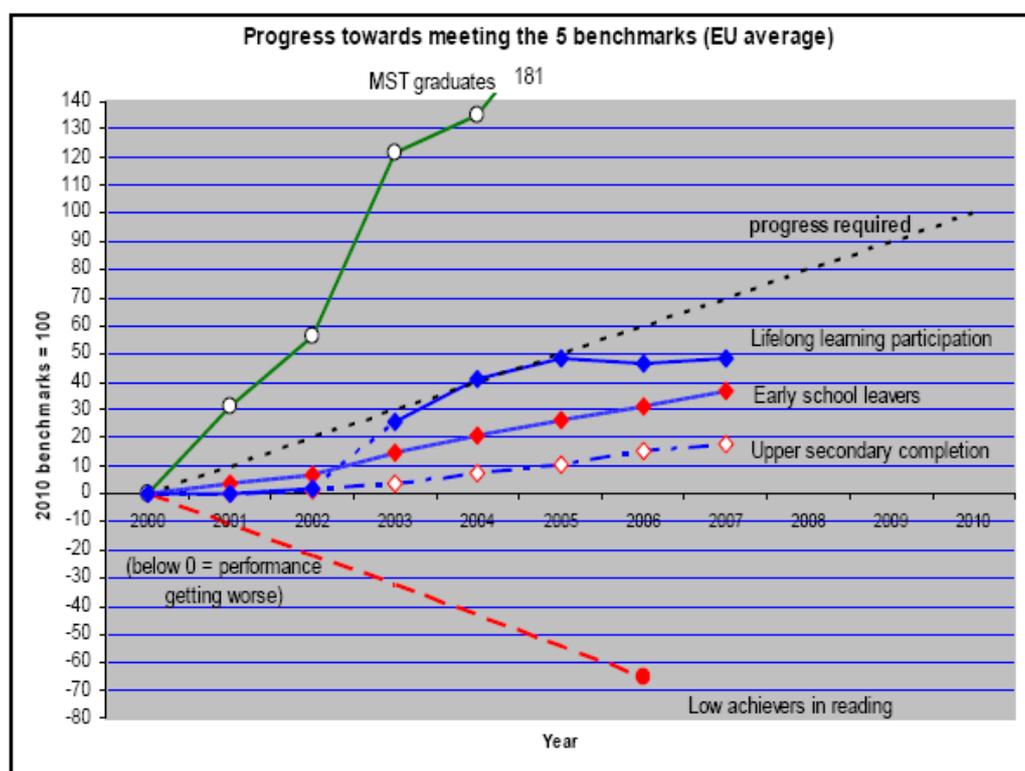


Figure 4: Gender and Parliament & National Presidents



Annex 2: Tables

Table 1: Progress towards meeting the five benchmarks for 2010 (EU average)



Source: European Commission, 2008:11

In this chart the starting point (in 2000) is set at zero and the 2010 benchmark at 100. The results achieved each year are measured against the 2010 benchmark (= 100). The diagonal line shows the progress required, i.e. an additional 1/10 (10%) of progress towards the benchmark has to be achieved each year to reach the benchmark. If a line stays below this diagonal line, progress is not sufficient; if it is above the diagonal line progress is stronger than what is needed to achieve the benchmark. If the line declines, the problem is getting worse.

In the case of lifelong learning, it should be kept in mind that there have been many breaks in the time series, which tend to overstate the progress made, especially in 2003. Therefore the 2002-2003 line on LLL participation is dotted. For low achievers in reading (data from the PISA survey) there are results for 18 EU countries for only two data points, 2000 and 2006. It is therefore not yet possible to assess to what extent the observed differences are indicative of longer-term trends.

Table 2: EU Country performance progress in each benchmark area, 2000-2006

	<i>Low performers in reading</i>	<i>Early school leavers</i>	<i>Upper secondary education</i>	<i>MST Graduates</i>	<i>Lifelong learning</i>
EU					
Belgium					
Bulgaria					
Czech Republic					
Denmark					
Germany					
Estonia	++				
Ireland					
Greece					
Spain					
France					
Italy					
Cyprus					
Latvia					
Lithuania	-				
Luxembourg					
Hungary					
Malta					
Netherlands					
Austria					
Poland					
Portugal					
Romania					
Slovenia	++				
Slovakia					
Finland					
Sweden					
United Kingdom	+				
Croatia	+				
Turkey					
Iceland					
Norway					

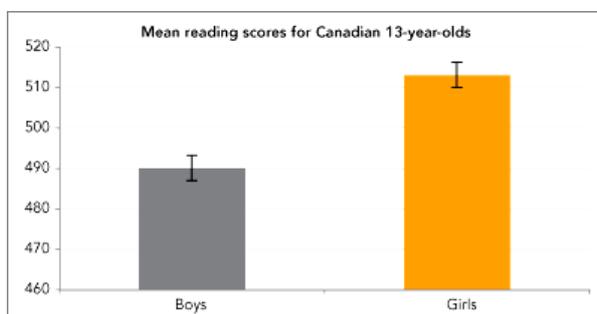
For low achievers in reading where only 2006 results were available: ++ performance above benchmark, + performance above EU average, - performance below EU average

Changes in 2007: *early school leavers*: LU improving to catching up, LT to moving further ahead, AT to falling further behind
Upper secondary attainment: Cyprus changing to moving further ahead, Austria and Finland changing to losing momentum,
lifelong learning participation: Portugal and Poland changing to catching up

	ABOVE EU BENCHMARK	BELOW EU BENCHMARK
INCREASING PERFORMANCE	MOVING FURTHER AHEAD	CATCHING UP
DECREASING PERFORMANCE	LOSING MOMENTUM	FALLING FURTHER BEHIND

Table 3: Canadian Council of Ministers of Education, PCAP-13 2007: 2008

Figure 1: Mean reading scores for Canadian 13-year-olds



Source: Council of Ministers of Education, Canada. PCAP-13 2007: Report on the assessment of 13-year-olds in reading, mathematics, and science.

Table 4: EU Early school leavers by gender, 2000 and 2007

Source: *Progress Towards the Lisbon Objectives in Education and Training* (CEC, 2008:123), Ch. 6.

Chart 6.3: Early school leavers by gender, 2000 and 2007

Percentage of the population aged 18-24 with less than upper secondary education and not in education or training, 2000 and 2007

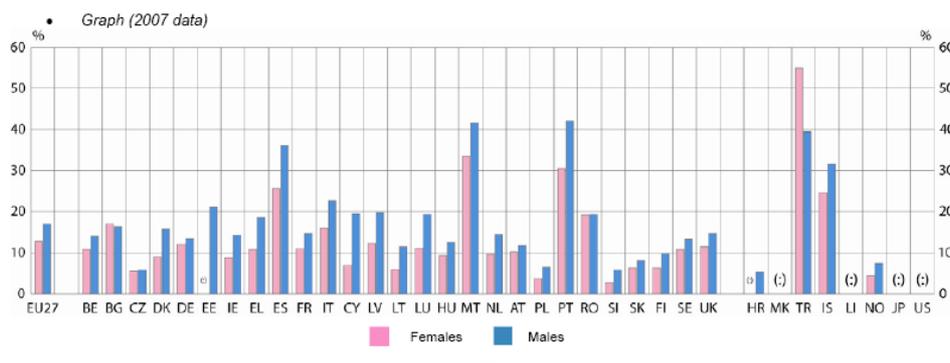


Table (2000 and 2007 data)

	EU27	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	MT
2000	17.6	12.5	20.3	5.5	11.6	14.9	14.2	14.7	18.2	29.1	13.3	25.3	18.5	19.5	16.7	16.8	13.8	54.2
Females	15.6	10.2	19.5	5.7	9.9	15.2	12.1	10.9	13.6	23.4	11.9	21.9	13.9	12.2	14.9	17.6	13.2	56.1
Males	19.7	14.8	21.1	5.3	13.4	14.6	16.3	18.4	22.9	34.7	14.8	28.8	25.0	26.7	18.5	15.9	14.3	52.5
2007	14.8	12.3	16.6	5.5	12.4	12.7	14.3	11.5	14.7	31.0	12.7	19.3	12.6	16.0	8.7	15.1	10.9	37.6
Females	12.7	10.7	16.9	5.4	8.9	11.9	:	8.7	10.7	25.6	10.9	15.9	6.8	12.3	5.9	11.1	9.3	33.3
Males	16.9	13.9	16.3	5.7	15.7	13.4	21.0	14.2	18.6	36.1	14.6	22.6	19.5	19.7	11.4	19.2	12.5	41.5

	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	HR	MK	TR	IS	LI	NO	JP	US
2000	15.5	10.2	7.9	42.6	22.3	7.5	5.6	8.9	7.7	18.4	8.3	:	58.8	29.8	:	13.3	:	:
Females	14.8	10.7	6.0	35.1	21.3	5.6	4.6	6.5	6.2	17.9	7.4	:	65.8	29.6	:	13.5	:	:
Males	16.2	9.6	9.7	50.1	23.3	9.3	6.7	11.3	9.2	19.0	9.1	:	51.2	29.9	:	13.2	:	:
2007	12.0	10.9	5.0	36.3	19.2	4.3	7.2	7.9	12.00	13.0	3.9	:	47.6	28.1	:	5.9	:	:
Females	9.6	10.2	3.6	30.4	19.1	2.7	6.3	6.3	10.7	11.4	:	:	55.0	24.6	:	4.3	:	:
Males	14.4	11.6	6.4	42.0	19.2	5.7	8.1	9.7	13.3	14.6	5.2	:	39.4	31.5	:	7.4	:	:

Data source: Eurostat (EU-Labour Force Survey)

Additional notes:

2007: provisional data for DK; LV, PT, FI and IS

SI and HR (all indicators, except total for 2001) and EE and LT (indicators by gender): unreliable because of the small sample size.

In DK, LU, IS, NO, EE, LV, LT, CY, MT and SI the high degree of variation of results over time is partly influenced by the low sample size.

Due to the implementation of harmonised concepts and definitions in the survey, the breaks of series were noted in the majority of countries, especially in 2003 and 2004.

CY: Students studying abroad are not covered by the survey; this indicator is therefore overestimated.

The EU aggregates are calculated using the closest available year result in case of missing country data.

UK, CZ, SE and IS: 2007: data for 2006

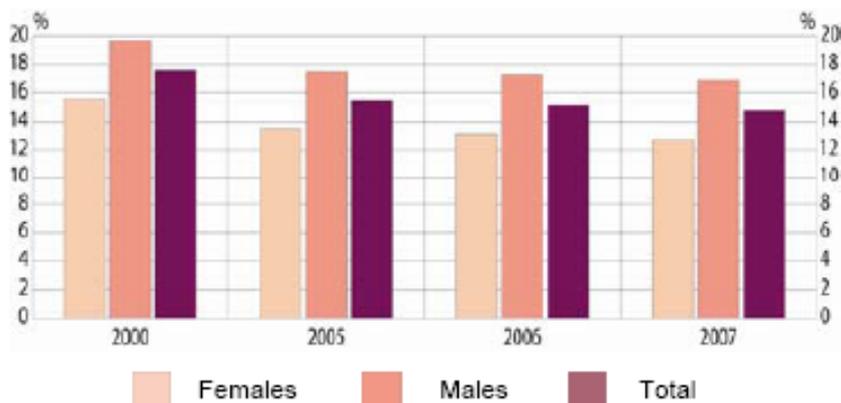
IE, LV, SK, CZ and HR: 2000: data for 2002

BG, PL and SI: 2000: data for 2001

Table 5: Gender and early school leaving

Source: *Progress Towards the Lisbon Objectives in Education and Training* (CEC, 2008:139), Ch. 6.

Chart 6.10: Percentage of early school leavers by gender - 2000, 2005, 2006 and 2007



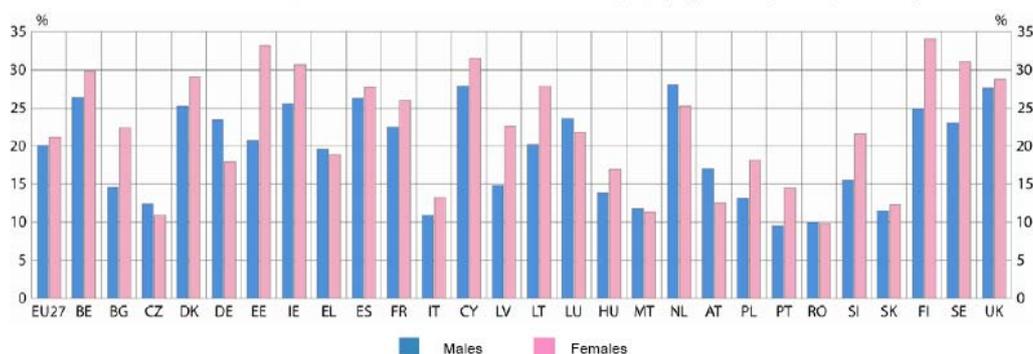
	2000	2005	2006	2007
Total	17.6	15.5	15.2	14.8
Females	15.6	13.5	13.1	12.7
Males	19.7	17.5	17.2	16.9

Data source: Eurostat (Labour Force Survey), 2000-2007

Table 6: Gender and high educational attainment of working-age population (15-64 year-olds) 2007

Source: *Progress Towards the Lisbon Objectives in Education and Training* (CEC, 2008:151), Ch. 7

Chart 7.3: Gender and high educational attainment of working age population (15-64 year olds) 2007



Data source: Eurostat (EU-Labour Force Survey)

Table 7: Educational attainment of young men and women 2007

Source: *Progress Towards the Lisbon Objectives in Education and Training* (CEC, 2008:151), Ch.7

Table 7.4: Educational attainment of young men and women 2007

		Low	Medium	High
20-24	Men	24.3	65.2	10.5
	Women	18.9	65.5	15.6
25-29	Men	21.4	52.9	25.7
	Women	17.4	48.6	34.0

Source: EUROSTAT (LFS)

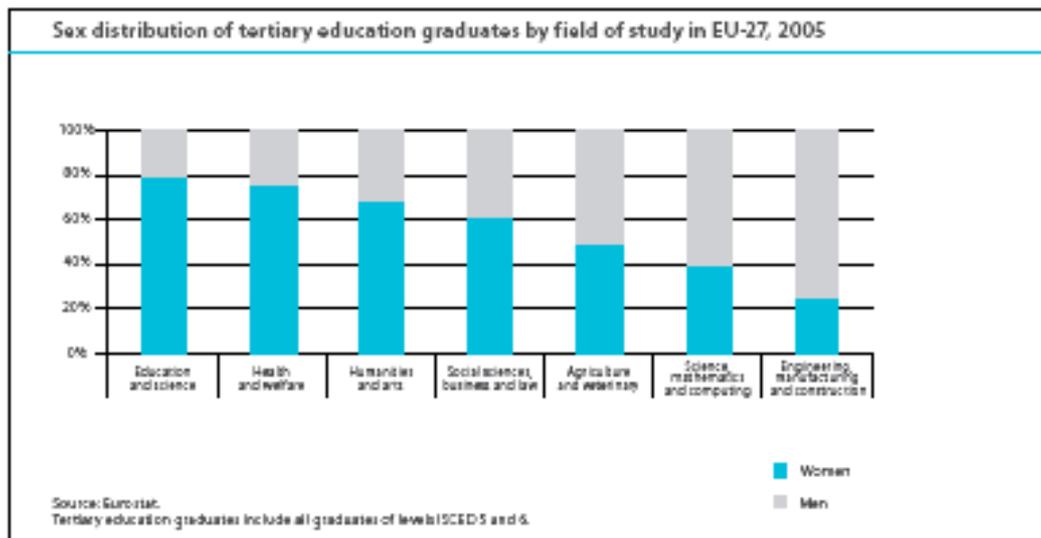
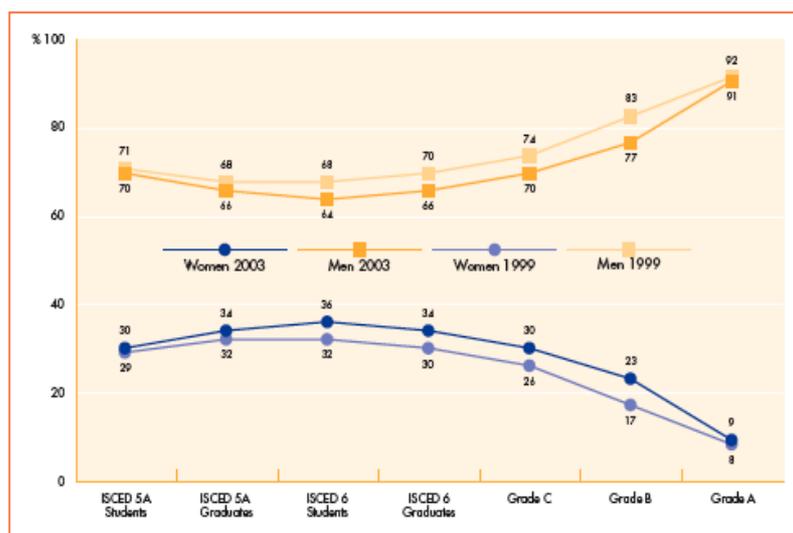
Table 8: Third level graduates by discipline and gender

Table 9: Proportions of men and women in a typical academic career, students and academic staff, in science and engineering EU-25, 1999-2003

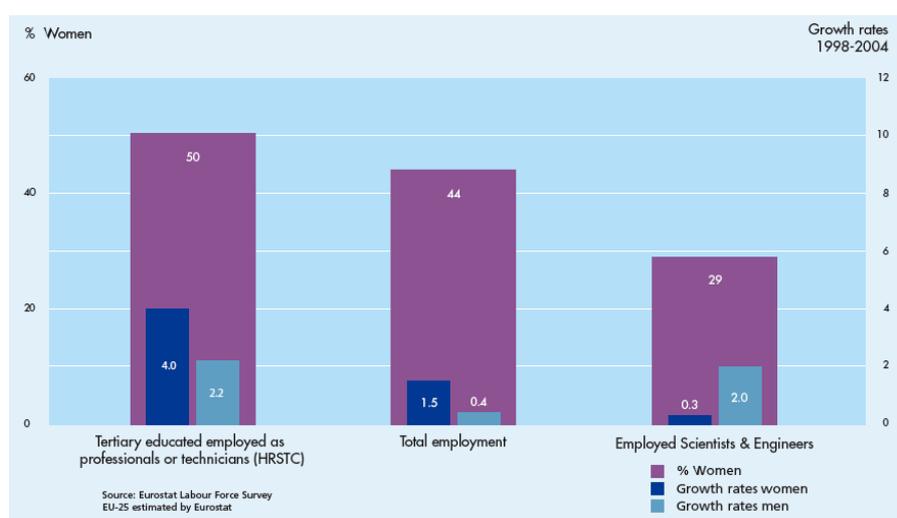


Definition of grades:

- A: The single highest grade/post at which research is normally conducted.
- B: Researchers working in positions not as senior as top position (A) but more senior than newly qualified PhD holders.
- C: The first grade/post into which a newly qualified PhD graduate would normally be recruited.
- ISCED 5A: Tertiary programmes to provide sufficient qualifications to enter into advanced research programmes & professions with high skills requirements.
- ISCED 6: Tertiary programmes which lead to an advanced research qualification (PhD).

Source: *She Figures Women and Science Statistics and Indicators (2006)*, European Communities

Table 10: Proportion of women in the EU-25 for total employment, tertiary educated and employed Human Resources in Science and Technology Core (HRSTC) and scientists & engineers in 2004, growth rates for men and women 1998-2004



Source: *She Figures Women and Science Statistics and Indicators (2006)*, European Communities

