Non-material benefits of education, training and skills at a macro level

Andy Green, John Preston, Lars-Erik Malmberg

In:

Descy, P.; Tessaring, M. (eds)

Impact of education and training
Third report on vocational training research in Europe: background report. Luxembourg: Office for Official Publications of the European Communities, 2004 (Cedefop Reference series, 54)

Additional information on Cedefop’s research reports can be found on:
http://www.trainingvillage.gr/etv/Projects_Networks/ResearchLab/

For your information:

• the **background report** to the third report on vocational training research in Europe contains original contributions from researchers. They are regrouped in three volumes published separately in English only. A list of contents is on the next page.

• A **synthesis report** based on these contributions and with additional research findings is being published in English, French and German.

Bibliographical reference of the English version:

• In addition, an **executive summary** in all EU languages will be available.

The background and synthesis reports in all EU languages will be available from national EU sales offices or from Cedefop.

For further information contact:
Cedefop, PO Box 22427, GR-55102 Thessaloniki
Tel.: (30)2310 490 111
Fax: (30)2310 490 102
E-mail: info@cedefop.eu.int
Homepage: [www.cedefop.eu.int](http://www.cedefop.eu.int)
Interactive website: [www.trainingvillage.gr](http://www.trainingvillage.gr)
Impact of education and training

Preface

The impact of human capital on economic growth: a review
Rob A. Wilson, Geoff Briscoe

Empirical analysis of human capital development and economic growth in European regions
Hiro Izushi, Robert Huggins

Non-material benefits of education, training and skills at a macro level
Andy Green, John Preston, Lars-Erik Malmberg

Macroeconometric evaluation of active labour-market policy – a case study for Germany
Reinhard Hujer, Marco Caliendo, Christopher Zeiss

Active policies and measures: impact on integration and reintegration in the labour market and social life
Kenneth Walsh and David J. Parsons

The impact of human capital and human capital investments on company performance Evidence from literature and European survey results
Bo Hansson, Ulf Johanson, Karl-Heinz Leitner

The benefits of education, training and skills from an individual life-course perspective with a particular focus on life-course and biographical research
Maren Heise, Wolfgang Meyer

The foundations of evaluation and impact research

Preface

Philosophies and types of evaluation research
Elliot Stern

Developing standards to evaluate vocational education and training programmes
Wolfgang Beywl; Sandra Speer

Methods and limitations of evaluation and impact research
Reinhard Hujer, Marco Caliendo, Dubravko Radic

From project to policy evaluation in vocational education and training – possible concepts and tools. Evidence from countries in transition.
Evelyn Viertel, Søren P. Nielsen, David L. Parkes, Søren Poulsen

Look, listen and learn: an international evaluation of adult learning
Beatriz Pont and Patrick Werquin

Measurement and evaluation of competence
Gerald A. Straka

An overarching conceptual framework for assessing key competences. Lessons from an interdisciplinary and policy-oriented approach
Dominique Simone Rychen

Evaluation of systems and programmes

Preface

Evaluating the impact of reforms of vocational education and training: examples of practice
Mike Coles

Evaluating systems’ reform in vocational education and training. Learning from Danish and Dutch cases
Loek Nieuwenhuis, Hanne Shapiro

Evaluation of EU and international programmes and initiatives promoting mobility – selected case studies
Wolfgang Hellwig, Uwe Lauterbach, Hermann-Günter Hesse, Sabine Fabriz

Consultancy for free? Evaluation practice in the European Union and central and eastern Europe
Findings from selected EU programmes
Bernd Baumgartl, Olga Strietska-Illina, Gerhard Schaubmeberger

Quasi-market reforms in employment and training services: first experiences and evaluation results
Ludo Struyven, Geert Steurs

Evaluation activities in the European Commission
Josep Molsosa
Non-material benefits of education, training and skills at a macro level
Andy Green, John Preston, Lars-Erik Malmberg

Abstract
The macrosocial, as opposed to the microsocial or economic, benefits of education are often neglected by researchers and policy-makers. An emphasis on individual actors and communities as the foundations of macrostructures has limited potential when understanding societal properties. Macrosocial concepts such as social cohesion and societal values have received much attention in sociological theory as it relates to education and this paper is part of what we identify as a wider rediscovery of such concepts in educational research and policy.
The macrosocial is conceptually different from the microsocial in terms not only of level, but also in terms of its emphasis on the relational properties of social functioning. These conceptual differences are highlighted through discussion of various macrosocial indicators – crime, social cohesion, societal values and citizen participation.
Beginning with an analysis of crime, we discuss why developmental and economic perspectives on criminal behaviour offer a limited understanding of crime, particularly in a comparative context. However, the structural antecedents of crime (particularly inequality and labour market position) are shown to be powerful explanatory tools.
Next we move to consider social cohesion, trust and values. Classical sociological accounts clearly construe cohesion as a macrosocial issue but current policy debates rarely refer to classical conceptions and freely conflate societal aspects of cohesion with micro and meso concepts of social capital and community. Through a discussion of these themes we ascertain that national and historical differences in these properties cannot be explained as aggregated microphenomena. Moreover, the educational system, including vocational education and training (VET), has a pivotal (yet sometimes contradictory) role to play in the construction of social cohesion.
It is not as clear that active citizenship and the antecedents of civic and political participation are macro phenomena in the same way as social cohesion. There are clear mechanisms involving resources and status which link VET to all aspects of participation. However, there are also cultural differences in the nature of participation and the relationships between participation and general trust. There is, therefore, a need for micro relationships between education and citizenship outcomes to be understood in terms of local and national context as part of a more general macro-micro synthesis.
From this review of literature we discuss the ways in which we may evaluate the relationship between VET and macrosocial outcomes. Although an evaluation in a summative and final sense would be ill-conceived in terms of societal outcomes, a hybrid of formative evaluation and macro causal forms of comparison is potentially fruitful. We employ a macro causal and evaluative form of comparison through the use of both macrosocial and microsocial data. These enable us to test hypotheses related to distributional considerations and the primacy of cultural over individual factors. Although the results are
exploratory, there is some evidence that distribution considerations are important factors in producing social cohesion. We conclude by restating the case for comparative approaches to these issues. Both distribution considerations and the values transmitted through education are important in realising macrosocial benefits, in particular social cohesion. In terms of implementation, although there are cultural limits on the extent that ‘policy borrowing’ is appropriate, there are clear lessons for policy-makers; improving the distributional equality of educational outcomes is as important as raising average skill levels.
# Table of contents

1. The macrosocial benefits of education 123  
   1.1. What are macrosocial benefits? 123  

2. Crime in comparative context 126  
   2.1. Introduction 126  
   2.2. Individual theories of crime – the rediscovery of the offender 126  
   2.3. Cultural, ecological and grand theories of crime 128  
   2.4. Indirect effects of ET on crime: unemployment, community effects and inequality 131  
   2.5. Conclusion 132  

3. Social cohesion: values, trust and tolerance 134  
   3.1. Defining social cohesion 134  
   3.2. Trust 136  
   3.3. Tolerance 137  
   3.4. Social cohesion and VET 141  

4. Active citizenship, civic and political participation 144  
   4.1. Conclusion 147  

5. Evaluating the macrosocial benefits of education, vocational education and training 149  
   5.1. Is it possible to evaluate the macrosocial? 149  

6. The macrosocial benefits of education: a preliminary investigation 152  
   6.1. Education and social cohesion: a macrosocial approach 152  
   6.2. Correlation between education and social cohesion measures 154  
   6.3. Educational inequality and social cohesion 154  
   6.4. Education and income inequality 156  
   6.5. Income inequality and macrosocial outcomes 158  

7. Macrosocial benefits through microsocial data? 159  

8. Conclusions 162  

   List of abbreviations 165  
   Annex 1: Macrosocial data 166  
   Annex 2: Details of SEM modelling 168  
   Bibliography and references 171
List of tables and figures

Tables
Table 1: Structural and cultural dimensions of social capital 146
Table 2: Pearson correlation coefficients and levels of significance for social cohesion aggregates 153
Table 3: Pearson correlation coefficients and levels of significance for mean level of upper secondary attainment and social cohesion aggregates 154
Table 4: Mean proficiency scores and test-score ratio for countries in sample 155
Table 5: Pearson correlation coefficients and levels of significance for distribution of educational attainments and social cohesion aggregates 156
Table 6: GINI coefficients (mid 1990s) 157
Table 7: Pearson correlation coefficients and levels of significance for distribution of income and social cohesion aggregates 158
Table 8: Pearson correlation coefficients and levels of significance for distribution of income and social cohesion aggregates with controls for GNP/capita 158
Table 9: Raw weighted means and standard deviations (in brackets) within each country 161
Table 10: Macrosocial aggregates for 15 countries 166
Table 11: Descriptions of, and goodness of fit indices for models 1 to 5 169
Table 12: Descriptions of, and goodness of fit indices for models 6 to 11 169

Figures
Figure 1: A coherent syndrome? Civic participation and general trust at the national level 154
Figure 2: Educational equality and general trust 156
Figure 3: Educational inequality and income inequality 157
Figure 4: Effects of education on social cohesion in four countries (non standardised and standardised regression coefficients) with controls for socioeconomic status and age 161
In this report we examine what we call the macrosocial benefits of education. The question of delimiting between micro- and macrosocial benefits is difficult. For many economists and social scientists, steeped in the traditions of methodological individualism, there is no macrosocial, and any benefits derived at that level are simply the aggregation of microsocial benefits. This view *in extremis* can be found in the ‘Austrian school’ economists’ belief that macro aggregates are not meaningful, being simply descriptive compositions of heterogeneous micro-processes. This view is the antithesis of that of theorists such as Lockwood (1992) who reject the idea of reducing macrosocial phenomena to the behaviour of individual actors (Mortensen, 1999). Here we take the view that societal effects are, at least in part, irreducible to individual level phenomena since understanding at the macro societal level may require analysis of the effects of some structures and characteristics which are integral to the collectivity or society itself, and which have meaning only at that level.

In terms of what might be called the microsocial benefits of learning, there is much evidence that education impacts upon individual health, propensity to commit crime and general quality of life (McMahon, 2000). Much of this evidence is grounded in the theoretical perspective of human capital, in that individuals are theorised to make decisions on the basis of present and future costs and benefits in order to maximise their net economic welfare. This would include any non-monetary benefits of education, what Becker (1993) refers to as psychic income, in addition to monetary benefits. Blaug specifies the contemporary definition of human capital theory to include non-monetary benefits: ‘People spend on themselves in diverse ways, not only for the sake of present enjoyment, but also for the sake of future pecuniary and non-pecuniary returns.’ (Blaug, 1992, p. 207).

1.1. What are macrosocial benefits?

Many of the social benefits of learning can be located in a microeconomic or microsocial framework and are embedded in human capital conceptions of education. However, when we progress to wider units of analysis such as the family, community and nation, the limitations of such an individually-based framework become apparent. This is not only in terms of whether the nature of the benefit can be reduced to individual decision-making, but if it can be expressed as an identifiable individual benefit. In some ways, macrosocial benefits may be thought of as ecological in that they provide a framework in which other microsocial benefits may be enhanced or diminished.

There are three primary features of macrosocial benefits of education to consider. First, they possess the characteristic of non-identifiability. Many micro-social benefits, such as improved health or crime reduction, can be attached to an individual, or a community. Macrosocial benefits do not have the property of identifiability in that they cannot necessarily be attached to a person, or community at lower than the national level (although their impact may be felt at this level). For example, social cohesion may be measurable, or at least proxied, but it is not possible to quantify the social cohesiveness of an individual. In economic terms, macrosocial benefits are a pure public good as the benefits derived are non-rival and non-excludable.

Second, they are often relational or positional in nature. Benefits such as improved literacy can be expressed in terms of one individual. However, educational equity in terms of the distribution of educational test scores cannot. They may be expressed only in terms of relations between individuals and, in this sense, may be thought to be macrosocial in nature.

Third, they are system level or social integration benefits (Mortensen, 1999). Macrosocial benefits cannot necessarily be aggregated from other social indicators, although their properties may well be related to microsocial indicators. For instance, individuals’ answers to the general trust question in the world values survey (WVS) (1) do

---

(1) ‘Do you trust people in general?’
not necessarily represent societal trust, although they can be used as a rough proxy for it. Obviously, there will be measurement error as individual perceptions of trust are not the same as the actual level of trust. However, even given this error, the level of social trust comparatively speaking is more than the aggregation of expressed individual trust as it comprises historically and culturally derived norms of trust which, although they determine individual responses and are captured in their measures, will deviate from those in other countries.

We can use human capital, social capital and social cohesion to illustrate arguments of identifiability, position and level. Human capital is clearly identifiable – the benefits can be attached to an individual, although it may make some sense to discuss the skills base of a nation. It is partly relational in that there is a relationship between an individual's relative human capital stock and his or her access to resources such as political power (Nie et al., 1996) or employment as evidenced by the burgeoning literature on overeducation. Human capital can be aggregated to a national skills base, although whether this skills base has macrosocial properties separate from the individual stock of capital is questionable. So human capital accumulation is not necessarily a clear example of a macrosocial benefit as benefits are primarily realised at the individual level. However, recent developments in the economics of education such as endogenous growth theory and on the social benefits of education such as democratisation (McMahon, 2000) indicate that there is potential for an engagement with macrosocial issues by human capital theorists. For example, endogenous growth theorists relate human capital accumulation to economy-wide innovation and lower crime (Sianesi and Van Reenen, 2000).

It is not as clear that social capital, defined by Putnam as ‘social networks and the norms of reciprocity and trustworthiness that arise from them’ (Putnam, 2000, p. 19) is a microlevel benefit of education. The ability of social capital to span micro-, meso- and macrolevels of analysis is much noted by its advocates (Lin, 2001) (Baron et al., 2000). Social capital cannot necessarily be attached to one individual (although Glaeser et al., 2000, attempt to distinguish between individual and community social capital) and from the writings of Putnam (1993, 2000) it is clearly ecological in nature. There are relational or positional elements of social capital in terms of its distribution or individuals' access to social capital, although it is rarely expressed in these terms. However, the role of social capital in system functioning or integration is not clear. In certain cases, the formation of civic associations and trust may work against forces for social cohesion (Skocpol and Fiorna, 1999) (Green and Preston, 2001).

Although it is not as clearly defined as either human or social capital, social cohesion can be considered to be a macrosocial benefit of education. It is clearly non-attributable to individuals or communities (although individuals or communities may have characteristics conducive to it). It has relational or positional properties in that the positioning of various groups within society is instrumental in producing social cohesion (1).

In this report, we begin by examining the macrosocial benefits of VET, and education and training (ET) more generally, by examining three related sets of literature. First we review literature related to education, crime and the formation of delinquent attitudes. Crime can be considered to be an important element in the potential for social cohesion. In particular, certain types of crime, such as hate crime, may be considered particularly relevant to the struggle for integration. Next, we examine literature related to education, social cohesion and the formation of values such as social trust and tolerance. This is diverse. And in particular, work relating to the influence of education on social cohesion is often of a qualitative nature. It is therefore often difficult to operationalise and test hypotheses related to learning and social cohesion within a positivist framework. We then move to consider the impact of education on the formation of an active citizenry in terms of civic and political life.

In the last part we examine how far quantitative and qualitative techniques can be used to investigate the impact of education on the macrosocial

---

(1) Social cohesion is also synonymous with social integration and system maintenance, at least in functionalist theories of society (Parsons, 1951). Parsonian or neo-Parsonian views of societal functioning are regarded critically by Marxist theorists such as Lockwood (1992) who stress the role of structural contradictions within capitalism as the basis for social conflict or social disintegration.
benefits of learning. We critically overview literature related to the comparative method, econometric techniques (such as the social rate of return) and evaluation methodologies. We then present two related pieces of quantitative work to investigate how far different methodologies (aggregate analysis and microsocial analysis within a comparative context) can be used to ascertain the impact of education on macrosocial benefits. We also test some of the hypotheses raised in this report related to the role of education in comparative context.
2. Crime in comparative context

2.1. Introduction

We begin our report by examining the literature on the impact of ET on crime. As with all macrosocial indicators, comparisons of crime statistics are troublesome in comparative context. Differences in legislation, recording and even cultural differences in the perception of criminal activity mean that cross-national comparisons should be made with caution.

There is little evidence that the collection of cross-national crime statistics has improved over time (Jousten, 1998, p. 282). One frequently cited example of a measurement problem is that there is less variation between countries in victimisation rates (self-reported crime) than in police data owing to differences in how the police define, handle and count offences (Killias and Aebi, 2000, p. 45). Particular problems occur in researching criminal subpopulations such as drug users where there are ‘rare and hidden subpopulations … hard drug users are difficult to reach and not very willing to co-operate’ (Ødegård, 1998, p. 358).

Measurement problems are of a cultural as well as a legalistic nature. Even given differences between actual crime, reported crime, police records and judicial interventions there is a social dimension to perceptions of crime (Jousten, 1998, p. 283) which can be seen as a driver of national policies, including those concerning education or resocialisation of offenders. Garland (2000) identifies what he calls a culture of high crime societies in the UK and the US and also potentially in other Northern European countries such as Germany. This is not necessarily a recent phenomenon. Historically public perceptions of crime have partly driven crime policy (Walton et al., 1999).

Competing definitions and interpretations of crime are rife in literature which, given its multi-disciplinary nature, makes a generalised assessment of the effects of ET on crime difficult. Internationally there have been attempts to collect crime statistics with cross-cultural differences in mind. For example, the European sourcebook on national crime, the International crime victimisation survey (ICVS) and to a lesser extent Interpol statistics provide a basis for international comparisons. Moreover, qualitative work, or that which examines trends (rather than absolute levels of crime), enables us to understand in part the effects of ET on crime at an aggregate level.

Given these qualifications concerning measurement and interpretation, we now turn to the research evidence connecting ET to crime. We have identified two broad areas of research: individual explanations of the ET-crime relationship; and cultural, ecological and grand theories of crime.

2.2. Individual theories of crime – the rediscovery of the offender

There has recently been a return to individual explanations of crime phenomena or a rediscovery of the offender (Kaiser, 1997). These approaches eschew grand theories of crime and theories which emphasise cultural rather than situational factors. Most influential in the current criminological literature is Gottfredson and Hirschi's (1990) ‘general theory of crime’ which, although using a single explanatory mechanism called ‘control theory’ to explain individuals’ propensity to commit crime, involves what Gottfredson and Hirschi (1990) call a culture-free perspective. They argue that: ‘cultural variability is not important in the causation of crime, [and] that we should look for constancy rather than variability in the definition of and causation of crime, and that a single theory of crime can encompass the reality of cross-cultural differences in crime rates’ (Gottfredson and Hirschi, 1990) (quoted in Vazsony et al., 2001).

Individuals who are inadequately socialised in early life and fail to bond with their parents through lack of adequate family structures are believed to lack self-control as adults. This lack of self-control is thought to result in antisocial behaviour and crime across all categories. As
self-control is formed in early childhood, there is little role for formal education in influencing this, except where educational interventions may be applied later after identification of supposedly inadequate family structures. Other developmental approaches to criminology, such as criminal careers research, are similarly sceptical regarding the role of later education in addressing bio-social and early childhood antecedents of crime.

Although there is a substantial number of national studies which support the tenets of control theory (Lanier and Henry, 1998, pp. 164-165), there has been little cross-cultural validation or testing of the concept. Most of what there has been has involved studies of youth and delinquency or crime-analogous behaviours such as deviance rather than more serious adult crimes. However, in a study of adolescents in Hungary, the Netherlands, Switzerland, and the US (Vazsony et al., 2001) the reliability of self-control and a scale for deviance (the normative deviance scale, NDS) is shown to be within acceptable limits for all countries. Moreover, self-control is the most powerful predictor of deviance, with differences between countries accounting for only 0.6% of the variance. This implies that most variation is within countries rather than between countries (although the outcomes are crime-analogous behaviours rather than crime as legally recorded).

While control theory and other developmental perspectives emphasise the role of individual difference as a cause of crime, routine activities theory (Felson, 1999) stresses the supply of opportunities for crime. Routine activities theory is an economic theory of crime which argues that criminal decisions are part of the category of more general economic behaviour based on rational perceptions of the costs and benefits of criminal activity (Becker, 1968), although strict assumptions regarding the degree of individual rationality are not necessarily supported in contemporary economic criminology (Lanier and Henry, 1998, pp. 76-77). A lowering of the costs of crime, in terms of a greater availability of criminal opportunities or reduced punishments, produces a greater amount of criminal behaviour. The recent surge in mobile phone theft in the UK could be seen to be explained by such a theory given the increased use of these phones and hence opportunities of theft.

A routine activities approach is employed by Killias and Aebi (2000) in an analysis of European crime trends from 1990 to 1996. Compared with the US experience, there has not been a significant decline in European crime trends in recent years although aggregate levels for most crimes are still higher in the US. Despite having demographic trends similar to those in the US, most European Union (EU) countries saw rises in crimes of all types, with a particularly sharp rise in property crimes and drug offences. According to Killias and Aebi (2000) there is no need to utilise grand theory, involving concepts of anomie or demography (which, in any case, are reasonably convergent across the EU, and not substantially different from those in the US) to explain these trends. Rather, the opening up of markets across Europe and wealth inequalities between East and Western Europe have offered new markets for stolen goods and new supply lines for drugs. Killias and Aebi (2000) do not suggest that education could play a major role in the context of this recent increase in crime. However, they mention that a lack of educational and labour market opportunities for migrants in the EU and Eastern European youth in general may have facilitated this process (Killias and Aebi, 2000, p. 52). This signals a possible role for targeted ET.

The lack of emphasis which both developmental (namely control theory) and economic (namely routine activities) theories of crime place upon formal education is borne out in national empirical literature. There is little evidence that educational level has an influence on an individual's propensity to engage in crime independently of other factors (Witte, 1997), although level of education has a powerful effect on other factors, such as income, which are related. Other educational outcome measures show a direct correlation. Time spent in education (Witte, 1997, p. 227) is associated with crime (but note that time spent in education is strongly correlated with social class), as is early childhood education (Rutter, 1994). Educational failure (dropping out) is also related to crime (Lochner and Moretti, 2001 reviewed in Feinstein, 2002).

Furthermore, there is significant evidence that delinquency is linked with poor performance at school or early school leaving (Friday, 1980, Non-material benefits of education, training and skills at a macro level 127
pp. 117-120). However, there is little evidence that delinquency necessarily leads to crime except for those individuals already at risk of criminal behaviour through poor early socialisation (Farrington and Loeber, 1999).

This relative neglect of ET or educational level is not true of all individual-orientated theories of crime. In the life-course approach, such as that adopted in the Tübingen studies (Kerner et al., 1995) ET is one possible road out of criminality (Kaiser, 1997, p. 373). Laub and Sampson (1993) perceive training and work as possible turning points in the criminal life course through social control and the creation of informal social bonds. The life-course approach has also been used to assess the impact of education on victimisation (the probability of being a victim, rather than a perpetrator of crime). Using reconstructed longitudinal data from the Netherlands, Wittebrood and Nieuwbeerta (1999) find that those who are of higher education and status are more likely to be victims of violent victimisation, particularly robbery and property crime. As they are less likely to commit crime, though, this has some effect on reducing their chances of being a victim of violent crime.

Individualistic criminological theories have little to say (either theoretically or empirically) about the role of ET as opposed to early and targeted interventions (Witte, 1997, pp. 220-233). They have also been challenged regarding their methodology and socially authoritarian potential. Haines (1999) criticises criminal careers and life-course research as being based on small, unselective samples which quickly become less relevant for policy concerns as respondents age. For example, the three major UK birth cohort studies started with samples born respectively in 1946, 1958 and 1970. This means that even in the latest cohort most individuals would have progressed through formal education in the years 1975-86 with VET following this period. The implication is that a number of important UK policy changes in ET, such as reforms in the qualifications system and the introduction of internal markets in ET provision, could not be tracked in this cohort. For the older cohorts (those born in 1946 and 1958) the policy context in which they undertook their education is even further removed from the concerns of contemporary policy-makers.

In addition Haines (1999) follows Garland’s (2000) contention regarding the manner in which cultural perceptions of crime are reified as social fact. There is little in individualistic theories of crime, other than in the life-course approach, about rehabilitation in adulthood. Policy-makers have capitalised on the more authoritarian aspects of these theories with an emphasis on early identification (youth crime policies, identification of potential juvenile offenders by teachers in primary schools in the UK) and incarceration (zero tolerance in the UK, three strikes policy in the US).

Therefore, the role of ET in mitigating criminal activity is seldom identified in individual theories of crime. As we have shown, there is little research evidence linking ET to individual propensity to commit crime, independent of its indirect effects (although there is more evidence on delinquency and crime-analogous behaviour). Moreover, the emphasis in these theories on the early formation of criminality seems to rule out the efficacy of later interventions. However, life-course theories offer some space where we may at least theorise a role for ET and there is some evidence that increased training may (given the availability of labour market positions) offer a route out of criminality (Laub and Sampson, 1993). Here, though, evidence is tentative.

2.3. Cultural, ecological and grand theories of crime

Unlike individualistic theories of crime, in cultural, ecological and grand theories the role of education systems and national educational strategies is more apparent, and necessary. Although studies of this nature tend to be based on a small number of cases – if nations or regions are the unit of analysis – they enable us to move beyond context-free examination of simple causality between education and crime. As Ødegård (1998, p. 365) states with regard to drug use: ‘For two different nations one and the same characteristic can generate opposite effects in the same way that some people can become alcoholics because of their milieu, while others can become total abstainers because of the same milieu’.

We will begin this section by examining the evidence relating national cultures and ET systems to crime. We will then move on to
discuss the position of ET in relation to the formation of certain criminal subcultures, namely those which perpetrate hate crimes and football hooliganism. Finally, we will examine the indirect effects of education on crime through meso and macro level mediators such as community, employment levels and income equality.

The importance of culture and institutions in understanding relationships between crime and other variables, such as education, is explored by Junger-Tas (2001) in her report of the preliminary results from the International self-report delinquency study (ISRD) which involves surveys of youth aged 14-21 in 13 countries including 11 EU Member States. Although there is similarity in the relationship between self-control and delinquency in different countries, there are also important national differences. For example, in England and Germany father absence was associated with higher delinquency, whereas in Nordic countries this was not the case. This is possibly due to different welfare arrangements between countries whereby single parent families receive more support in Nordic states (Junger-Tas, 2000, p. 323). Similarly, whereas there was a relation between large peer groups and delinquency in some countries, this was not the case in southern Europe where, arguably, these are often the norm.

This reveals, again, the importance of different social and cultural contexts. With regard to education, Junger-Tas (2001) reports from a continuing survey of Dutch youth that shows that school achievement and parental supervision are important factors in reducing juvenile delinquency. However, for ethnic minorities youth parental support is greater and they are more likely to be victims of physical abuse than Dutch youths.

In another example, Eisner and Wikstrom (1999) compare violent crime in Stockholm and Basel. They find that the temporal and spatial patterns of crime are similar, occurring more frequently in the evenings and early mornings, particularly in areas with high social disorganisation resulting from poverty, unemployment and transient populations. However, there are differences in the levels and types of crime, with violent crime particularly high on weekend nights in Stockholm. Eisner and Wikstrom (1999) suggest that this is due to the cultural norms amongst young men in Stockholm. However, they find that education has a perverse effect on the rate of violent crime in Basel, with the percentage of university students in each district being positively correlated with the rate of violent crime (an effect which may be due to the nature of undergraduate fraternities there?). This effect persists even when controlling for indicators of local deprivation, although other educational controls (such as the number of educational establishments in a district) are not used.

The relationship of European ET systems to juvenile crime is further discussed by Estrada (1999). Estrada distinguishes between two models of post-war juvenile crime – one in which the trend has been a general and continuing increase (in England, Finland, Germany (3)) and one in which it levelled off in the 1970s (in Austria, Denmark, the Netherlands, Norway, Scotland, Sweden, Switzerland). Given these differential trends, Estrada does not consider that either routine activities or control theory are suitable explanations. The availability of crime opportunities did not necessarily differ from country to country. Indeed, most countries adopted a punitive approach to juvenile crime prevention which would not explain the divergent trends (Estrada, 1999, p. 37). In addition, those factors which would suggest a deterioration in family functioning, such as increases in the divorce rate, occurred mainly from 1965 to 1975 which is not consistent with the increases in crime from 1950 to 1965 nor with the levelling off in juvenile crime which occurred in most countries thereafter.

Estrada argues against an individually-based explanation of crime and in favour of one based mainly on the social control functions of ET. According to him, the segregation of young people from adult society through ‘the increasing length of educational careers, a later and later entrance into the labour market and the growth of a youth focused popular culture’ have been responsible (Estrada, 1999, p. 38). This process has occurred at various times and with variable rates of consistency across Europe and this, he argues, explains the variation in crime trends. For example, the crime trend in Sweden can, he argues, be explained by the fact that

(3) To construct a German time series, Estrada (1999) uses crime statistics for that part of the country known as West Germany up to 1989.
post-compulsory education and late entry into the labour market increased dramatically from 1950 to 1960, peaking in the late 1960s and stabilising thereafter. To support this point Estrada cites self-report evidence from both Denmark and Sweden which suggests that youths are actually more disciplined now than in the 1970s (Estrada, 1999, p. 38). The fact that juvenile crime trends have not levelled off in some countries can be explained by the continuing extension of education and youth separation from the labour market, according to Estrada (1999, p. 38). However, this is somewhat belied by the rise in youth crime in Germany where the ET system is generally believed to provide a highly structured entry into adult life (Brown et al., 2000). In addition, it would be interesting to know whether changes in the segregation of youth correspond with changes in other social indicators such as the distribution of skills or income inequality.

In his long-range sociohistorical study of European homicide rates, Eisner examines the determining role of education systems in the light of Norbert Elias’ theory (1978) on the effects of modernisation in engendering self-control (Eisner, 2001). From a variety of historical records, Eisner constructs a time series data set for Belgium, England, Germany, Italy, the Netherlands, Switzerland, and the Scandinavian countries from around 1200 to the present day. Although cautious of measurement issues, he is able to identify a downward secular trend in homicide rates where the ‘phases of accelerated decline [...] often seem to coincide with periods of rapid expansion and stabilisation of state structures’ (Eisner, 2001, p. 630). For example, the decline in Swedish rates coincides with the establishment of centralised bureaucratic structures and the decline in Italian rates with national unification in the 1870s. Eisner uses Oestreich’s (1968, 1982) concept of social disciplining resulting from a period of state intrusion into everyday life in order to explain these phenomena (Eisner, 2001, p. 631). In particular, he argues that ‘the expansion of literacy and schooling and early capitalist expansion of work constitute independent sources of the disciplining process in the early modern age [...] Their effects on the structures of the self were both rigidly to enforce self-control and to provide the social and cultural resources for a more orderly conduct of life’ (Eisner, 2001, p. 631). Education did not act independently of context but ‘these effects may have been particularly penetrating among those groups and areas where intensified moral control by the church, expanded schooling, pervasive state structures, and work discipline intertwined into mutually reinforcing power structures’ (Eisner, 2001, p. 631). At the same time he sees the rises in homicide rates which occurred at the end of the 16th century and in the period around 1800 as reflecting social and cultural transformation in European societies. Similarly, the rise in homicide rates since the 1960s may reflect the transition from modern to post-modern society (Eisner, 2001, p. 633).

These studies show how general theories of crime are limited by their blindness to cultural differences. Different cultural antecedents of delinquency operate not only for national populations (Estrada, 1999) (Eisner, 2001) (Junger-Tas, 2001), but also for subpopulations (Junger-Tas, 2001) (Eisner and Wikstrom, 1999). We also see the influence of distinct national cultural contexts in examining criminal subcultures.

The role of educational arrangements and institutions within national cultural contexts is apparent in comparative work on criminal subcultures. For example, there has been recent policy and research interest in what are called hate crimes in the EU. These are crimes involving violence against a specifically targeted racial or national group which have specific implications for social cohesion. According to Levin and Rabrenovic (2001, pp. 584-585) various commentators argue that hate crimes are ‘more harmful to the social fabric of society than comparable crimes without a bias motive’. This is due to victim interchangeability (victims are chosen because of their membership of a specific group, not because of prior actions or opportunity), secondary victimisation (that attacks against the victims family and community escalate due to hate crimes) and escalation (that hate crimes may escalate into large scale social conflict).

There are obvious cultural differences in terms of legal definitions, types and targets of hate crime. In a study of aggressive youth cultures and hate crime in Germany, Watts (2001) contrasts hate crime in Germany and the US. He argues that although the historical roots of hate crime are different in both countries, the structural
antecedents of right-wing violence amongst the skinhead subcultures are similar across cultures. These antecedents are status anxiety, decline of working-class culture and unemployment due to marginalised positions in education, labour and housing markets (Watts, 2001, p. 612).

Similarly, Dunning (2000), in an analysis of football hooliganism as a world phenomenon, identifies cultural differences between the nature of hooliganism but identifies similarities in structural antecedents. In Belgium, for example, Van Limbergen et al. (1987) cite unemployment and a short and frustrating school career as responsible, whereas in Holland typical Dutch hooligans ‘tend to resent and resist formal education’ (Van der Brug, 1986, cited in Dunning, 2000, p. 160). Dunning states that hooliganism is situated around fault lines in each country ‘in England, that means social class and regional inequalities […] in Italy city particularism […] in Germany the relations between East and West’ (Dunning, 2000, p. 161).

In all cases economic (and educational) inequalities are realised and expressed in different cultural forms of hooliganism. Although the role of education in hate crimes and hooliganism is not direct, educational inequality (particularly in terms of lack of access to labour markets) can be seen as one part of various interrelated inequalities.

However, explanations of subcultures of crime which are orientated around working class or underclass social and economic disadvantage are problematic. Crime statistics tend to overrepresent working class crime. Moran (2000) with reference to UK and US data demonstrates how the criminal justice systems over-record the number of working class men as perpetrators of homophobic violence (see also Lees, 1996 for a feminist critique of the construction of rape and domestic violence as a predominantly working class crime). Additionally, working class crimes are often perceived to be a greater social problem than so called ‘white collar crimes’. Robson (2000) examines how football hooliganism has been identified as a problem among white working classes (at least in the UK) whereas statistics demonstrate it features a range of social classes (as conceded by Dunning, 2000). Such studies may cause us to treat direct causal relationships between economic and social disadvantage and crime with due caution, although there is some evidence of these effects, as discussed in the next section.

2.4. Indirect effects of ET on crime: unemployment, community effects and inequality

What we have seen is that the influence of education on crime is not direct and that cultural factors and institutional arrangements are important. However, there is some evidence that there are indirect effects of education on crime. The labour market advantages associated with a higher level of education, namely a lower probability of unemployment and a higher salary, may be mechanisms through which ET has an impact. We have already explained how unemployment is part of the social exclusion involved in hate crimes and hooliganism. Indeed, at a microsocial level of analysis, longitudinal studies reveal an association between early school leaving, unemployment and crime (Farrington et al., 1986) although crime may paradoxically rise in times of high employment. Dunning (2000) shows that football hooliganism in the UK was much higher in the 1960s when there was virtually full employment when compared to the economic depression of the 1930s when hooliganism was virtually non-existent.

Such paradoxes may be resolved by reference to macroanalysis. At an aggregate level, the influence of unemployment on crime operates in two opposing directions (Beki et al., 1999). Firstly, unemployment reduces general economic activity and reduces the value of goods to be stolen. This suggests an opportunity effect which would lead to a negative relationship between unemployment and crime. As low levels of economic activity are credibly associated with lower levels of conspicuous consumption and business activity, the opportunity and temptation for crime falls. Second, unemployed individuals may have more incentive to steal as they have lower absolute and relative incomes. Through a time series analysis of the Netherlands from 1950 to 1993, Beki et al., (1999, p. 410) show that unemployment has a negative effect on the aggregates for most theft crimes including burglary (the opportunity effect).
The only positive relationship between unemployment and crime is in terms of fraud where there may be an unsurprising motivation effect.

Possible area, or ecological, effects of education are also indirect. Social disorganisation theories examine the influence on crime of variables such as poverty, ethnic heterogeneity and residential mobility. In practice, proxy measures for these variables such as indices of deprivation, ethnic mix and unemployment are used (Mesch and Fishman, 1999). The use of these proxies has led to some debate as to whether social disorganisation is a single characteristic of areas, or rather a cluster of unrelated variables. Mesch and Fishman (1999) dispute that a latent variable for social disorganisation fully accounts for the direct effects of urbanisation and family disruption on crime whereas Glaeser et al. (1996) contend that the quality and quantity of social interactions are more important than social disorganisation. In terms of ET, social disorganisation theory may be criticised as neglecting the indirect effects of education on values, as opposed to their labour market functions. For example, in socially disorganised areas the weak socialisation capacity of ET institutions are rarely examined explicitly (Bursik, 1998). Indeed, there is some evidence that peer group effects are predictors of juvenile delinquency (Gaviria and Raphael, 2001), although again whether this leads to subsequent criminal activity is questionable.

Rather than examine the intrinsic characteristics of communities in order to identify criminogenic elements, a strand of research involves analysing the relative standing of countries and communities in terms of income inequality. Using cross-national data, Braithwaite, J. and Braithwaite, V. (1980) show a statistically significant correlation between greater inequality of earnings and higher homicide rates across countries. Messner (1982) found that the extent of income inequality accounted for 35% of the differences in homicide rates among the 39 countries for which he had data.

Research based on US state level data also suggests a link between inequality and crime. Kelly (2000) shows that even controlling for other factors such as poverty, race and family composition there are strong associations between economic segregation and crime. Lee (2000) shows how the spatial isolation of poor individuals from the wealthy is a more powerful predictor of crime than the intrinsic properties of individuals and communities. He uses this finding to criticise researchers who attempt to identify essentialist explanations of crime among African Americans, rather than examine relative inequalities. Kelly (2000) also indicates the potential for replication of inequality and crime studies using European data. Examining inequalities and the relative position of individuals and groups may enable us to investigate how far social disorganisation theories of crime have validity.

Econometric literature shows that income and education inequality are strongly associated (Nickell and Layard, 1998). Countries with wider dispersion of skills and qualifications, as we will show later, also tend to have greater inequality of income. If income inequality is related to higher levels of certain types of crime at regional and national levels, it may be that societal levels of crime are indirectly affected by education inequality.

2.5. Conclusion

In conclusion, there is relatively little quantitative evidence at the individual level to support a direct relationship between levels of ET, or even post-compulsory education, and crime when other factors, such as social class, are controlled for. However, there are clearly indirect effects.

In comparative context, the effects of education systems (and particularly the relationship between education and labour markets) are more apparent and probably derive as much from the content and distribution of educational outcomes, as from the average levels in any given country. The effects of education on crime are highly mediated by their national context. Indeed, to a certain degree how we perceive crime is constructed differently between nations (Garland, 2000). The macrosocial effects of education on crime are perhaps best perceived in terms of long periods of time (Eisner, 2001) and there has been relatively little research conducted into long duration relationships. However, we may make a number of tentative generalisations.

First, the marginalisation of individuals from labour markets and the norms of society is one of the features of criminal subcultures across European societies, although the form of this marginali-
sation differs between countries. Second, although there are distinct cultural realisations of crime, there are identifiable common structural antecedents. Although the relationship between unemployment, social disorganisation and crime is unclear, there is emerging evidence that income inequality, and by implication education inequality, is an antecedent of some types of crime.
3. Social cohesion: values, trust and tolerance

3.1. Defining social cohesion

Social cohesion is a concept with a long and complex history. All societies have been concerned with problems of social order and their philosophers have written extensively about them from Aristotle to Hobbes. During the 19th century an explicitly sociological approach to the problem was developed which examined the forces, institutions and values which hold – or fail to hold – society together. It might be said that social order and social cohesion represented the defining problems of the new discipline of sociology developed by Comte, Saint-Simon, Durkheim, Spencer, Weber and Tönnies in 19th century Europe. The founding fathers of the new science of society (or secular religion as detractors were likely to call it) concerned themselves with social cohesion because they were aware that they lived in an era of rapid transition when traditional bonds and ties were being eroded and where the centrifugal forces of industrialisation and democracy could rip apart previous social connections. As Marx, contemplating the whirlwind of capitalism, famously wrote: ‘All that’s solid melts into air.’ We are currently living in a similarly transformative age and ask similar questions.

The answers provided by the 19th century social thinkers to the problem of social cohesion were varied, as they are today. All noted that industrialisation and the division of labour were transforming social and spatial relations from societies based on face-to-face community (what Durkheim called ‘mechanical solidarity’) to some new form of order with more diverse and distributed social connections. To Durkheim this meant the erosion of the collective conscience and close-binding values of traditional society and their replacement by new forms of organic solidarity based on the functional mutual interdependencies created by the division of labour. To Tönnies it meant the shift from society based on community (Gemeinschaft) to society based on contract (Gesellschaft). Such changes were seen to be inevitable, but they did not guarantee that social cohesion and order would prevail. For Spencer unfettered market relationships were enough to hold society together, but for the continental thinkers no such benevolent hidden hand existed. For Comte and Tönnies it was ultimately only the state that could hold society together. For Durkheim, who criticised Comte’s insistence on moral consensus and both Comte’s and Tönnies reliance on the state, there had to be other forces, beyond market and state, which maintained cohesion, although he recognised that the state had an important role to play in promoting core values of morality and meritocracy. In times of rapid transition, and particularly when technological change outran society’s moral capacities for adaptation, pathological social disorders arose which required new remedies. Primary among Durkheim’s candidates for this were the new intermediary associations of civil society that stood between the state and the market – most notably professional associations (Lukes, 1973). Education also had a key role, and Durkheim became a key advocate of the Third Republic’s characteristic educational policy of promoting social solidarity through schooling. ‘Society,’ he wrote, ‘can only exist if there exists among its members a sufficient degree of homogeneity. Education perpetuates and reinforces this homogeneity by fixing in the child, from the beginning, the essential similarities that collective life demands.’ (Durkheim, 1977).

Durkheim wrote as a liberal socialist republican in late 19th century France (Lukes, 1973), but his theories left a complex legacy informing both left and right notions of social order and social cohesion. In the American liberal tradition, a particular strand of Durkheim’s thought was appropriated by the school of structural functionist sociology developed by Parsons and Merton (Parsons, 1951). This stressed the idea of the market division of labour and functional interdependence in complex modern societies as a source of self-reproducing order but failed to address processes of change. Continental social democratic traditions, on the other hand, have placed more stress on the role of state and organised intermediary associations as the basis of cohesion in modern societies. Indeed, it is hard to separate the idea of the modern welfare state and social partnership from continental conceptions of social cohesion.
Both traditions have stressed in their different ways the importance of education to social cohesion. In Parsonian theory, schools have the vital role of ensuring efficient allocation of skills in the labour market as well as being a major socialisation agency for children into the key normative values of society, not least by promoting loyalty to a meritocratic belief system which is taken to be the main ideological cement of society. Social democracy, and particularly the Nordic variety, has, on the other hand, placed more stress on the role of education in fostering social solidarity though common experience and learning (Boucher, 1982).

It is fair to say that education has been given a major role in traditional sociological accounts of social cohesion. However, it should be stressed that most theories accord equal importance to full employment, welfare, crime, industrial relations, community relations, national identity, and citizenship. There is literature for instance on: the welfare State (Mortensen, 2000), governance (Ritzen et al., 2000b), equity (Ritzen et al., 2000b) (Heynemann, 2001) and opportunity structures (Mann, 1999), value formation (Parsons, 1951), gender relations (Siim, 1999), crime and corruption (Ritzen et al., 2000b) and industrial conflict (Mouzelis, 1999).

Classical sociological accounts construe social cohesion as a macro societal issue. However, current policy debates rarely refer to classical conceptions and theories and freely conflate societal aspects of cohesion with micro and meso conceptions of social capital and community. The Canadian Policy Research Institute (1997, p. 2), define social cohesion as ‘the ongoing process of developing a community of shared values, shared challenges and equal opportunity within Canada, based on a sense of trust, hope and reciprocity amongst all Canadians’, whereas Ritzen et al. (2000b, p. 6) write of ‘a state of affairs in which a group of people (delineated by a geographical reason, like a country) demonstrate an aptitude for collaboration that produces a climate for change’.

The use of terms such as trust, reciprocity and collaboration provides a parallel with writing on social capital and, for some theorists, social cohesion is little more than a special case of social capital, whereby linking rather than bridging social capital ties groups into the nation-state. Implicit in the definition is the importance of a sense of consensus, shared values and shared challenges in the formation of social cohesion. Indeed, in recent writings on global civil society (Anheier, 2001), the social capital metaphor has been applied to the (trans) national dimension (Dasgupta and Serageldin, 2000).

The applicability of social capital theory or a general sense of community to this level of aggregation may be questioned as themes of structural inequalities or how shared values such as trust and reciprocity come to be arrived at in society, are not tackled. For example, even a neoliberal perspective on social cohesion Ritzen and Woolcock (2000a, p. 6) finds it necessary to incorporate a macro political component.

Questions of macro relationships, equity and hegemony are central to an analysis of the impact of education on social cohesion. Social cohesion requires more than neighbourhood or regional stability (what has come to be called community cohesion) or the inflation of communitarian ideals to macrosocial objectives.

Social cohesion, in terms of both values and macrosocial outcomes, has been a long standing national objective of both general education and ET. According to Heynemann and Todoric-Bebic (2000, p. 161) the social cohesion function of education is at the heart of each countries education system: ‘at the end of the 20th century, public schools are asked to perform more or less the same task as they were at the beginning of the 17th century – or trying, anyway’. Heynemann and Todoric-Bebic (2000) state that the meaning of social cohesion as an objective of national education systems is not uniform. In some countries, such as the newly independent ex-Soviet states, reducing public corruption and fostering civil society may be seen as primary social cohesion objectives. In others, such as Europe and the US, ethnic and supernational identity may be concerns (Hepburn, 1992).

Although social cohesion objectives vary between countries, the importance of fostering (potentially) socially cohesive values such as social trust and tolerance is a clearly stated objective in many national curricula and it is to these areas which we now turn our attention.
3.2. Trust

Trust is a notion which is frequently associated with both social capital and social cohesion. Social capital theory treats trust as a key constituent of social capital, seeing it as the product of iterated face-to-face interactions between individuals engaged in common pursuits within associations and networks. In Putnam's account, trust is the outcome of association (Putnam, 2000), rather than the cause, although little evidence is cited to justify this interpretation (Green and Preston, 2001). Putnam also assumes for the most part that trust within bounded associative groups spills out into a wider trust throughout society as a whole. However, this more diffuse form of societal trust may be better thought of as a qualitatively distinct characteristic. A thinner trust which Newton (1999, pp. 17-20) refers to as abstract trust may be a more appropriate analytical concept than general trust in investigating macrosocial benefits such as social cohesion. Abstract trust is not necessarily based on repeated face-to-face interactions, but often on the limited and sporadic contacts which take place continuously within modern industrial societies. It also reflects trust in imagined, or empathic communities, such as trust with other Europeans, and therefore connects with notions of identity.

The basis of this abstract trust, according to Newton, may lie in education. He writes:

‘education which teaches the young to understand and operate the abstract principles of such things as trust, fairness, equality and universalism [...] Education also provides the disparate citizens of modern society with a common set of cultural references without which daily understanding would be impossible [...] Education, it is said, is what is left after people have forgotten what they have been taught. A willingness to trust and reciprocate may be among the things which stick when all else has been forgotten.’ (Newton, 1999, p. 18).

This socialisation and value formation function of education is somewhat contrary to the resource-based function of education supposed by Putnam (2000), although it is central to both Durkheimian and Parsonsian conceptions (Morrow and Torres, 1995). Rather than education enhancing personal resources, which in turn are the antecedents of organisational membership and eventually generalised trust, education in this conception acts directly on higher-order trust in abstract systems. We discuss the socialisation functions of ET later in this section.

It may be additionally argued that in many countries, and in certain areas of industrialised countries, ‘thick’ trust, defined in terms of intensive, daily contacts with community or family members, is of greater significance than thin trust. This concept of thick trust is proximate to what Durkheim (in Giddens, 1972) refers to as mechanical solidarity (as opposed to organic solidarity, which is analogous to thin trust) and what Tönnies (1957) refers to as Gemeinschaft. Although thick trust can probably not be used as an explanatory variable for macrosocial outcomes in advanced, industrial societies, pockets of thick trust will exist among isolated, tightly-knit urban and regional communities and ethnic enclaves within countries.

In addition to the various kinds of interpersonal or general trust discussed above, there are also further measures of trust in institutions (institutional trust) and in democratic processes (democratic trust).

Trust is generally considered an important property for social capital, social cohesion and the health of civil society generally (Almond and Verba, 1963). Consequently it has been measured over a number of years across many countries, usually by asking respondents if they generally trust other people and specified institutions. There has been some debate about whether the first question is construed by respondents in terms of trusting in close friends and family or more widely, but it seems likely that most people understand it in the second sense as intended since trust levels are extremely low in some countries (10 % in Brazil on WVS figures). Aggregate responses change over time within countries, but slowly, and there is a remarkable consistency in the country levels in different surveys (Inglehart, 1990); so it would appear that measurement is reasonably robust. In WVS and other surveys there is also a striking difference in levels between countries – from 70 % plus trusting in Nordic countries to single figure levels in some countries. This suggests that the question is measuring a fairly central and durable feature of cultural life in different countries.

There is some debate about how closely these
various concepts of trust relate to each other. Social capital theorists claim that generalised trust is the basis for other forms of trust, particularly abstract trust in systems, national and supranational entities, but there is little comparative evidence that types of trust are correlated within or across countries (Prakash and Selle, 2001) (Norris, 2000). Even where correlations are found to exist, for example between general and democratic trust (Green and Preston, 2001), it is not necessarily the case that organisational memberships are the cause of higher levels of trust in both cases as Putnam contends. There is an equally valid argument for claiming that the causation runs from trust to associational membership, rather than from membership to trust. Trust is seen as an important factor contributing to other desirable socioeconomic outcomes such as economic growth and strength of democracy (Norris, 2000). However, despite the strength of these relationships in contemporary advanced societies (Norris, 2000) over the longer historical term more complex relationships emerge. It may be, for instance, that distrust and conflict between various interest groups have been instrumental in the production of both European democracy and economic dynamism at various periods (Skocpol and Fiorna, 1999, p. 14). There is clearly an historical and institutional element to trust which cannot necessarily be identified within one country or through statistical analysis.

Evidence on the trends in levels of trust in modern societies produces a mixed picture. Putnam provides substantial evidence that general trust is eroding for various different groups in the US (Putnam, 2000). Hall’s (1999) analysis of data for the UK between 1959 and 1990 shows that levels of trust have declined for all groups defined by age, gender, class and education, although the decline within working class groups has been greater than among middle class groups. Other studies, however, have found more mixed effects in different European countries (de Hart and Dekker, 1999 for the Netherlands; Van Deth, 1999, for Finland, Norway and Spain).

We have little evidence on the relationships between ET and trust at the macro level, and it may well be that this depends very much on what type of trust is being considered. ET may be particularly effective, for instance, in promoting thin trust in terms of abstract notions of general trust, fairness and universalism, but to substantiate this would clearly require more research. As we show later in this report, there is no significant correlation across countries between levels of education and levels of trust, although there is a strong correlation between distribution of education outcomes and trust. Given that levels of trust vary hugely between countries, and rather more than levels of education, we may assume that other factors are involved in generating trust as well as education.

3.3. Tolerance

Another commonly assumed component of social cohesion is tolerance and, like trust, this is a highly contested concept. Tolerance may be understood as acceptance of intragroup lifestyle differences (permissiveness), or it may be understood as openness towards other cultures (as in ethnic tolerance). These propensities may not necessarily coincide. Equally there may be libertarian conceptions of tolerance as acceptance of all values, no matter how abhorrent, which are quite different from liberal notions which accept value differences but only where they do not transgress certain core values. Libertarian attitudes may involve a general permissiveness towards deviant majority group behaviour but may not necessarily include attitudes conducive to ethnic or racial tolerance. Research evidence suggests that, at the individual level, in certain social contexts, education is associated both with more permissive attitudes and with greater acceptance of other cultures (Putnam, 2000) (Inglehart, 1990). However, effects at the societal/national level may be much more complicated.

Halman (1994) reports on the results of Eurobarometer surveys across Member States which seek to gauge attitudes towards foreigners. In the 1988 survey, 37 % of those surveyed thought that there were too many people of a foreign nationality living in their country while 33 % thought there were too many of another race, and 29 % too many of another religion. There were substantial differences in responses across countries, but with responses relating to foreign nationality and other races covarying. The most likely to believe there were too many people of a
foreign nationality in their country were respondents from (in descending order) Belgium, the UK, France, West Germany and Denmark. Least likely (in ascending order) were those from Ireland, Spain, Portugal and the Netherlands. Most likely to believe that there were too many from other races were respondents from (in descending order) West Germany, the UK, France and Belgium and least likely from (in ascending order) Ireland, Portugal, Spain and the Netherlands. The Danish respondents were most likely to be concerned about the numbers from other religions and cultures, but least likely to be concerned about the numbers from different social classes. In the 1988 data there is a close correspondence between the proportion in each country believing that there are too many foreigners and the proportion saying that their lives were disturbed by their presence, although it was the other races which were perceived as most disturbing rather than the foreign nationals.

The 1993 survey shows considerable changes in levels of intolerance in a number of countries, with declines in West Germany but an overall increase in most countries. Most marked were the increases in Denmark, where the proportions finding the presence of foreigners disturbing rose in respect of other nationals (from 10 to 21 %), other races (from 13 to 20 %) and other religions (from 15 to 19 %). By 1993 the Danish respondents were far more likely than those in other countries to be disturbed by those of another religion (39 % as against 19 % in the next highest country – Belgium) and most likely overall to be bothered by people of different nationalities, races or religions. However, the European values survey (EVS) – which asks respondents whether they dislike having different categories of people as neighbours – shows Danes to be the most tolerant as regards such groups as drinkers, drug addicts and political extremists, suggesting that it is quite possible to combine intragroup permissiveness with closure towards foreign cultures. The EVS data for 1981 and 1990 show increases in levels of tolerance in Ireland, the Netherlands, the UK and West Germany, and decreases in Belgium, Denmark, France and Italy.

Although these data suggest interesting regional variations in attitudes, with southern Europe coming off apparently better in relation to tolerance than northern Europe, they may not tell us much about how far different national groups are, inherently or culturally prone to intolerance. Levels of discomfort with foreigners appear to be quite situational as they correspond closely to actual levels of immigration and to perceptions of difficulties arising from the presence of immigrants. They also change rapidly from one period to another, presumably in response to circumstantial events – like unification in Germany, which initially seems to have had a positive effect – or to political climate shifts. They may, therefore, tell us very little about whether one national population will respond more intolerantly than another to the presence of a given proportion of foreigners under similar circumstances. It should also be noted that although the proportions feeling discomforted by foreigners have risen across EU countries, the vast majority still say that they are not disturbed by the presence. In as much as intolerance appears to have risen, and during a period of rising levels of education, we may conclude from this analysis that it is wise to be cautious about assuming any direct effect of average education levels on aggregate levels of tolerance. If there are such effects they may be overwhelmed by other more powerful contextual effects.

In a wide-ranging review comprising research from several European countries, Hagendoorn and Nekuee (1999) collected evidence concerning ET and racial tolerance based largely on microdata in individual countries. According to Hagendoorn (1999) there are two main causal mechanisms by which education may lead to increased racial tolerance.

First, education leads to increased cognitive skills involving enhanced abilities to categorise, understand causal relationships and perceive states of the world. Hence individuals will be increasingly able to understand that potentially racist statements, for example blaming migrants for unemployment, are based on faulty reasoning. The second mechanism is through the formation of racially tolerant values as part of socialisation through schooling. There is much research evidence that years and levels of schooling have an impact on subscribing to racist views. Although there is little evidence to suggest that particular interventions or types of curriculum lead to a reduction in racism (Hagendoorn, 1999, p. 5) there is some evidence that courses which stress individ-
uals’ critical capacities seem to have a greater effect than other courses (Hagendoorn, 1999, p. 6).

Given the quantity of research evidence, Hagendoorn (1999) admits that there are a number of paradoxes in education-racism literature. For example, despite rising education levels in the US and many education interventions aimed at increasing racial tolerance, there is evidence that US youths are as racist as they were after the Second World War. Hagendoorn (1999) explains that rising levels of education may simply moderate the expression of racism. Although educated individuals may not wish to state racist views in public (or in a survey) they may be racist in their private lives and in informally supporting discriminatory practices. Pettigrew and Meertens (1995) refer to this as a difference between blatant and subtle forms of racism amongst those of different social classes and educational levels. From a longitudinal survey of evidence from the Netherlands, Verberk and Scheepers (1999) show that those with intermediate education are not likely to be bluntly racist but are more likely to be subtly racist than those with lower levels of education.

The effects of education are also dependent on other factors, not least socioeconomic context. For example, those with low relative levels of education may face actual (or at least perceived) competition for unskilled jobs (Cox, 1970, pp. 392-422) (Roediger, 1991) (Hagendoorn, 1999, p. 3) or in housing and community politics (Rex and Tomlinson, 1979). In an analysis of pooled European data (EVs), Jasinska-Kania (1999, p. 90) shows that the impact of education on racial tolerance is greater in those countries with greater levels of immigration, whereas in countries with small proportions of immigrants in the population the impact of education on racism is much smaller. This may be because more circumstantially-driven racism provides more opportunity for educational attenuation, while hard-core (under-any-circumstances) racism is impervious to educational mitigation.

Given the impact of actual or perceived competition for economic resources on racism, we suggest that aside from values and cognitive resources there is a third possible pathway through which ET may affect racism – what Verberk and Scheepers (1999) refer to as realistic conflict theory. As they argue: ‘A central assumption of realistic conflict theory is that socioeconomic competition for scarce resources between groups such as ethnic groups leads to the formation of negative attitudes of the other groups. The competition may be concrete such as housing or labour, or abstract such as culture, power and status’ (Verberk and Scheepers, 1999, p. 179). Cognitive resources may be implicated in this mechanism in that the source of resource conflict (unequal distribution of resources by the state or businesses) may be wrongly attributed to migrants rather than state or business interests themselves.

Although little attention has been paid to realistic conflict theory in mainstream research literature, it has been a current of Marxist and neo-Marxist thought for some decades, at least since the black American Marxist Oliver Cromwell Cox developed these ideas in the 1940s (Cox, 1970). Realistic conflict theory provides us with a theoretical framework for examining racism in terms of structural inequalities (in which education is implicated) rather than in terms of individual moral and cognitive deficits. However, the theory clearly has limitations. Historically, racism has often developed among the most affluent and powerful groups with limited reasons to feel competition over scarce resources with immigrant or ethnic minority groups. They may, however, have been in exploitative relationships with members of these groups, in their positions of slave owners, colonial administrators, or low-paying employers, which it may have been expedient to rationalise through racist ideologies. Moreover, it is important to note that working class groups in potential material conflict with immigrants and minorities will not always develop hostile views. Within education in contemporary England, for instance, working class students frequently resist, rather than accept, racist doctrines (Gillborn, 1995). This leads us to be critical of left realist perspectives which cite racism within the working class aside from a more dialectical view of class and race relations.

Given the three possible mechanisms by which ET may influence racial tolerance – value formation, cognitive and realistic-conflict – we now examine the empirical literature on education and tolerance.

There are a number of national differences in the influence of ET on values conducive to racial tolerance. In some countries (such as Italy), the
influence of education on tolerant values has been found to be small and indirect (Peri, 1999), whereas in others (France, Germany) large effects have been identified (Haegel, 1999) (Winkler, 1999). Moreover, the relationship between racial intolerance and other personality characteristics (namely authoritarianism) differs from country to country.

Peri (1999) finds that in Italy the direct impact of education is small. The influence of education on tolerance is indirect, operating through channels of conformism, traditional values and professional employment. However, Peri’s study is both correlational and cross-sectional, so strict claims of causality cannot be made. We do not know, for example, if education or the family was implicated in developing conformism and traditional values. In a French study, Haegel (1999) examines the influence of education on both authoritarian values and racial tolerance. She finds a positive association of education with tolerance, although the effects are weaker for those with vocational qualifications. Interestingly, there are different levels of ideological consistency depending on the individual’s level of education. For those individuals with low levels of education, there is little relationship between authoritarianism and racial tolerance, although those in such a position are likely to feel insecure about the future. Although individuals with higher levels of academic education are more likely to be tolerant, those who are racially intolerant are likely to hold authoritarian attitudes.

As Haegel (1999) shows, individuals with different levels of education may exhibit different clusters of values. She relates this to the French education system and sees the coercive flip-side of the French model of assimilation as being the rejection of certain other ethnic differences (Haegel, 1999, p. 34). Similarly, for Germany, Winkler (1999) shows that there are different pathways for racism between individuals with different levels of education, although he arrives at different conclusions from Haegel concerning the relevance of authoritarianism. Through structural equation modelling, Winkler (1999, p. 126) demonstrates that there are different pathways explaining racism for highly and less highly educated people. He suggests that sociocultural insecurity, comprising right-wing views, national pride and authoritarianism, is a powerful predictor of racism for those with lower levels of education, whereas for those with higher levels of education authoritarianism is not significantly related to racism. Winkler’s (1999) study additionally provides some support for realistic conflict theory as sociocultural insecurity is a particular predictor of racism of those with lower levels of education.

There is a difference in the role which authoritarianism plays in the formation of racism among those with low levels of education in the two countries. In France, Haegel (1999) shows that authoritarianism does not correlate with racist values, whereas in Germany Winkler (1999) shows that there is a strong correlation. The relevance of this factor may result from the historical development of racism in the two countries.

In terms of the cognitive mechanism by which education influences racism, De Witte (1999) distinguishes between various forms of racism. He refers to these as general racism (negative attitudes towards migrants), biological racism (a belief in the hereditary superiority of one’s own race) and cultural and economic racism (a belief that the cultural habits of migrants differ and that they expose nationals to resource competition). It is this last form that De Witte refers to as everyday racism as it is the least ideologically formed and most prevalent. Although everyday racism has shown little change in Belgium over time, it is at a higher level than in other European countries. De Witte (1999) contends that cognitive capacity is a strong mechanism in the reduction of everyday racism. He argues that research in Belgium (Gavaert, 1993) and the Netherlands (Raaijmakers, 1993) has shown that those following vocational courses are more likely to exhibit everyday racism and that this may be due to the greater attention paid to cognitive skills in Belgian academic education. It might also be argued that this is a class effect, since those following vocational courses are likely to come from less affluent social groups and thus more likely to perceive competition over scarce resources. However, De Witte (1999, p. 68) does not necessarily reject the socialisation function of education and believes that there is a difference in the emphasis placed on values in the academic track (De Witte, 1999, p. 69).

In the debate concerning the influence of education on tolerance, there may be little to choose between whether education influences
values or cognitive skills. Values are obviously important, as are national characteristics and the nature of the education system in each country. So too is the role of the curriculum in building individual resources. It may be helpful, then, to see values and cognitive resources as joint parts of a process of formation of racial tolerance. Sniderman and Gould (1999) see the process of racial tolerance as the interaction of values acquired through socialisation, values invoked at the moment of choice, and cognitive sophistication. Education has an influence not only on long-term value formation but also on the exercise of values at the moment of choosing whether to express a racist opinion or action. In addition, reasoning is involved in both the long-term formation and short-term exercising of values.

To processes of cognitive and value change, we would add that the formation of values takes place within a historical and cultural context. As Halman (1994) shows, rising absolute education levels have not led to an increase in racial tolerance. Education does not remove the individual from society – individual values are embedded in a social context. For example, the role of authoritarianism in the formation of racist values may differ from one culture to another. We must also remember that under certain historical conditions there may be a perversive relationship between education and tolerance, at least in terms of support for intolerant regimes. As Abramson and Inglehart remind us: ‘the assertion that education has some inherent tendency to instil democratic values does not stand up in historical perspective. In Germany during the Weimar era, for example, the National Socialists won student elections in eight universities, at a time when the Nazis won only 18% of the vote in national elections… Today, higher education does tend to support democratic values, but this relationship reflects specific historical conditions and is not an automatic consequence of education.’ (Abramson and Inglehart, 1994, p. 800).

3.4. Social cohesion and VET

We have shown that social cohesion is historically derived and culturally specific, involving equity, values and macrosocial actors such as the welfare state. The specific role of education in bringing about social cohesion in a society depends not only on the level of qualifications, but potentially on the distribution of skills and opportunities as well as the transmission of values. Moreover, the role of education systems is both historically and culturally situated (Abramson and Inglehart, 1994). Given the multiple and embedded functions of education there is a limit to which we can make generalisations concerning its role across the EU, let alone more specifically in relation to VET. However, there are a number of qualitative comparative studies of vocational education and apprenticeships which have interesting things to say about value formation.

As Aldrich (1999) explains, the nature of apprenticeship has historically involved the social and legal integration of youth into society. However, this occurs in quite nationally specific ways. For example, in the UK, apprenticeship is now largely considered to be part of vocational training whereas in France and Germany the route to a Beruf or profession involves a more structured process of social and legal transition, at least in theory. Young (2000) refers to these distinctions in terms of differences in assessment regimes. In the UK, an outcomes-based system of assessment does not involve the same type of integration into adult life as the institutional approach favoured by Germany.

The German dual system of apprenticeship is often held up as an ideal model of the relationship between training and economic and social integration. As Green and Sakamoto (2001, pp. 69-74) explain, embedding the dual system within a neocorporatist system involving workplace codetermination, sectoral agreements and other aspects of social partner regulation of work and training, has delivered not only high skills but an upgrading of skills and jobs throughout the economy. In terms of citizenship in the wider social sense, the system also enables wider community acceptance of youth, aiding transition into adult life (Evans, 1998).

This emphasis in the dual system on integration into both economic and social spheres is philosophically underpinned by the work of the late 19th century Bavarian writer Georg Kerschensteiner who was concerned with orientating education systems around both civic responsibility and work. In Kerschensteiner’s theory, work schools are required to develop both
manual and intellectual skills. Students would learn within work groups which would develop the basic rules for civic cooperation and communal life (Röhrs, 1993). Although Kerschensteiner placed an emphasis on the duties (rather than rights) of citizens, the practice of those duties within the work school would be through independent, responsible work.

The contemporary German dual system still manifests this concern with civic responsibility; in its broad curriculum, encompassing preparation for both work and citizenship, and in the way in which it seeks to provide a structured transition for young people into the highly regulated German labour market (Brown et al., 2001). The school (Berufsschule) component of the apprenticeship has a particularly broad mission including general education and occupational theory. According to the general 1991 framework agreement for vocational schools set out by the Land Minister and the BIBB, Berufschulen have amongst their objectives:

(a) ‘to impart professional competence, specialised competence in conjunction with human and social capabilities;

(b) to develop occupational flexibility in order to cope with the changing demands of the working world and of society, as well as having regard to the growing together of Europe;

(c) to encourage preparedness for continuing and further professional training;

(d) to provide the ability and willingness to act responsibly in terms of the individual shaping of one’s own life and in the public sphere’ (quoted in Brown et al., 2001).

The final emphasis on the public sphere is indicative. However, despite these foundations, the dual system may also have certain characteristics which can have negative consequences for social cohesion.

In a comparative study, Evans and Heinz (1994) consider youth transitions through a comparative study of vocational preparation in England and Germany. They use the term active-individualisation to describe an ideal type transition involving a process of self-determination and planning. This is opposed to passive-individualisation involving weak specification of goals. On these grounds one would expect the German system of vocational preparation to be superior in its social integration function as routes are clearly specified, with clear links between employment and citizenship. In the UK youth entered the labour market two years before their German counterparts and progression routes were poorly defined. This led to some individuals in the UK reporting a lack of integration and a sense of powerlessness in attempting to gain employment or citizenship. However, although in Germany progression routes were much clearer, for those individuals who experienced difficulties or dropped out, the lack of flexibility meant that it was difficult to achieve reintegration. The Evans and Heinz study (1994) indicates the difficulty of equating an historically well functioning system of vocational preparation with one which delivers social integration.

Even in those systems of vocational preparation which appear to deliver a smooth transition into adult roles and citizenship we need to be aware of the latent functions that deliver income and social equality. For example, the German apprenticeship system may perpetuate labour market inequalities, with girls and immigrant children typically finding places – and hence later jobs – in only the lower status (Bynner, 1994) (Brown, 2001). The role of education (particularly vocational preparation) in maintaining inequalities in terms of economic and cultural reproduction is rarely referred to in policy discourses on social cohesion, although it is central to current educational theory (Morrow and Torres, 1995).

In a review of the European literature on the role of social class in the reproduction of educational inequalities, Hatcher (1998) cites evidence that in only two EU countries (the Netherlands and Sweden) did social class inequalities in education decline between the First and Second World Wars with only limited improvement for some countries since the Second World War. Moreover, even in a country often cited as an exemplar of egalitarian educational and welfare policy – Sweden – there has been very little movement in the pattern of class inequality. The pattern of educational inequality remained reasonably constant in Sweden from 1970 to 1990. However, although inequality of social opportunity in Sweden is roughly the same as that of other EU countries, welfare provision means that there is lower inequality in terms of standards of living (Erikson and Jonsson, 1996a and 1996b) (cited in Hatcher, 1998). This evidence points to the intractability of class
inequalities and the difficulties of educational or VET reform more generally in addressing these inequalities. This represents the counterpoint to educational reform which seeks to address social cohesion as an issue purely of increasing educational access.

However, even if we should not expect VET to address class inequalities, there are opportunities for such education to lead to active or critical citizenship. As shown by the ETGACE project (Education and training for active citizenship in Europe) work related ET may open up critical spaces for discussion and dissemination of ideas.

The project’s case studies show the close links between lifelong learning and various interlocking areas of civic life. This includes VET and the workplace. For example, in Belgium a case is provided of workers cooperative (De Wrikker) where the relationship between VET and citizenship occurs in terms of making choices concerning alternative conceptions and practice of work (ETGACE, 1992). This particular notion of active citizenship as solidaristic and socially transformative differs substantially from that offered by many contemporary theorists, as we shall see in the next chapter.
The position of an active citizenry as a macro-, rather than microsocial, benefit of education is unclear in empirical literature. Although there are many studies which indicate that education is associated with varied civic and political behaviour (Emler and Fraser, 1999, provide a useful summary of this literature) it is not clear how education is expected to impact on such behaviour. Most studies assume that education has a role in increasing the resources of individuals and that this leads to an increase in various forms of participation. However, some studies are concerned with the positional aspects of education (Nie et al., 1996).

Nie et al. (1996) examine the positional nature of political participation in the US. Through ordinary least square (OLS) regressions over time they find that it is the relative, rather than absolute, level of education that is important in determining access to network central positions and political influence. As the general level of education increases, the value of each qualification level in gaining network centrality and political influence declines. They use preliminary evidence from the EVS to indicate that the results of their study may be generalised beyond countries other than the US. Although Nie et al. (1996) take into account context in terms of educational level, there are few other studies which examine education for citizenship comparatively. In particular, emphasis on microsocial or institutional case studies has meant that there are relatively few studies concerned with the influence of national education systems or contexts on citizenship outcomes. Those studies which do exist are mainly historical, concerning the development of education and the nation-state (Green, 1990).

One contemporary study that does take into account the impact of national systems of education on citizenship is the IEA (International association for the evaluation of educational achievement) citizenship study of 28 countries (Torney-Purta et al., 2001). This cross-national study of 90 000 14 year-olds attempted to ascertain processes and outcomes of citizenship formation through qualitative and quantitative data from students, teachers and schools.

Students demonstrated a basic knowledge of democratic processes, although their understanding was often at a superficial level, and a positive relationship between civic knowledge at 14 and future preference for voting was identified. Many students also rejected conventional political routes in favour of non-violent political action and collecting money for charities or environmental causes. Schools with democratic processes and an open climate were found to be particularly effective in inculcating civic knowledge and activity in all countries.

The distribution of civic knowledge within countries was not as unequal as the distribution of other educational outcomes such as mathematics or literacy. Although this could result from the nature of civic knowledge (there is naturally less variation than in other types of knowledge) it could also signify that civic knowledge is not necessarily a process in which schooling plays a major part (less than common accessible media). However, despite the narrow distribution of civic knowledge between countries, significant differences were found between both knowledge and activity. Although, in general, transition countries and older democracies scored more highly on civic knowledge, there are some interesting contradictions within the results.

In terms of civic knowledge, the Czech republic, Finland, Greece, Italy, Norway, Poland and Slovakia were significantly above the international mean. Many of these countries have in common a high level of reading literacy (Torney-Purta et al., 2001, p. 78), and this may indicate a relationship between civic knowledge and general cognitive skill. Belgium and Portugal were significantly below the international civic knowledge mean. However, there is not necessarily a relationship between civic knowledge and civic engagement, at least at the national level. For example, Portugal was significantly above the mean in terms of belief that conventional forms of civic engagement are important (despite being below the country mean for civic knowledge).
whereas the Czech Republic was below the country mean in terms of belief that non-conventional forms of civic engagement are important (despite being above the country mean for civic knowledge). This may reflect the respective histories of the two countries. For example, in the Czech Republic transition to a market economy and democracy may mean that there is less need to support unconventional forms of political engagement in order to affect change. Interestingly, many of the Nordic countries (Denmark, Finland and Sweden, but not Norway) also scored below the mean in terms of support for all forms of political participation, which may indicate preferences for more consensual or institutionalised forms of political action or a perception that there are not so many injustices to contest.

The data also show that there is not necessarily a relationship between country levels of literacy, civic knowledge and support for rights for women and ethnic minorities. Slovakia, for example, scored significantly above the international mean in terms of civic knowledge, but in terms of support for rights for women and ethnic minorities was significantly below the international mean alongside other transition economies (Bulgaria, Estonia, Hungary, Latvia, Lithuania). This result is not necessarily surprising given the conservative forms of nationalism which currently predominate in these countries (Brubaker, 1996).

There are various messages from the IEA civic participation study, but one which resonates with this report is the importance of national context in examining microsocial relationships. The individual level relationship between civic knowledge and civic activity, for example, is well established in various studies (Emler and Fraser, 1999). This relationship does not necessarily hold at a national level, however. For example, those countries with high levels of civic and reading literacy do not necessarily have high levels of support for political activity. This seems to imply that a resource, or cognitively based model of political participation, is inadequate in explaining variations in the level of political activity (rather than the relationship between learning and political activity) internationally. It seems that regional patterns of civic knowledge, attitudes and behaviour are important.

The importance of comparative research becomes clear when examining the effect of education on civic participation in other studies. In particular, national differences in the causes of civic participation, in forms of civic participation and in the relationships between civic participation and other values, such as trust, become clear. There are different causes and consequences of civic participation – education being only one possible route. The Putnamesque (4) model of social capital may be seen to be particularly narrow when applied to countries outside of the US (Prakash and Selle, 2001).

The sub-elements of what has come to be called social capital, both structural (social networks and civic participation) and cultural (localised and generalised trust), are not necessarily correlated at national level (Prakash and Selle, 2001). Norris (2000) provides evidence for the lack of correlation between levels of associational memberships and general trust (5) across 47 countries using evidence from the WVS (6). Moreover, there is a strong tendency for the distribution of trust and associational memberships in countries to follow patterns which might reflect underlying cultural values of the countries concerned, rather than a random distribution of social capital. In terms of the distribution of associational memberships and trust Norris categorises countries as belonging to one of four typologies (Table 1).

As can be seen in Table 1, not all countries have either rich or poor social capital. Many fall into the mixed category with no positive correlation between trust and associational membership.

(4) For Putnam (2000) civic associations are the root of social capital formation. Individuals participate in associational life which leads to the development of localised trust (in other associational members) and then to more generalised trust (in people as a whole). Hence general trust (and more universal social benefits such as democratisation) develop as a result of civic life. Although this somewhat simplifies Putnam’s (2000) argument, the emphasis on civic association as the key to general trust and a stream of social benefits is, we believe, the core of ‘Putnamesque’ social capital.

(5) As measured by the percentage of individuals answering positively to the question ‘Generally speaking would you say that people can be trusted or that you can’t be too careful in dealing with people’.

(6) As measured by the percentage of individuals in each country who were a member of at least one voluntary association including church and religious organisations, sports or other recreational associations, labour unions, professional associations, charitable organisations and any other voluntary associations.
We may have reason to suspect that the distribution of countries to each quadrant is non-random – countries within each quadrant follow clear geographical groupings. A Putnamesque explanation for this distribution would involve theorising about distributions of social capital in terms of similarities in social and generational trends in each country, for example, explaining low levels of trust in Latin America on the basis of increased television viewing. However, this would not explain the coexistence of low levels of social trust in Latin American countries with relatively high levels of associational membership – as revealed by Table 1. The two should comprise part of a coherent syndrome and there is no reason to expect imbalance between the two to persist, particularly across a range of Latin American countries. In the absence of the ability of social capital to explain this phenomenon, we may pursue alternative explanations such as income inequalities, national culture or differential impacts of supranational phenomena, such as globalisation. We may also speculate on the historical role of national education systems in fostering these types of relationship – a point to which we will return in our conclusion.

In Chile, for example, explanation of thriving civil society with low trust could be based upon the recent history of a corrupt and dictatorial regime. As in former Eastern Bloc countries in Europe (such as the former German Democratic Republic) associational memberships may have been a necessity for many citizens in securing a basic standard of living.

In common with other authors (Knack and Keefer, 1997) (La Porta et al., 1997), Norris (2000) also finds little correlation between the associational membership component of social capital and macrosocial outcomes. It appears that any apparent relationships are driven by general trust. For example, although there are strong and significant correlations between social trust and various macrosocial benefits such as educational enrolments, life expectancy, the human development index, per capita gross domestic product (GDP), economic growth, democratisation, political involvement, ownership of televisions, newspaper readership, and use of the Internet, only per capita GDP and internet usage are correlated with membership of voluntary associations (although interestingly, tolerance is also significantly correlated with organisational membership rather than trust).

Aside from the difficulty in identifying coherent patterns of relationship between associational membership, trust and macrosocial outcomes as would be expected by Putnam, there are also issues concerning the meaning of these terms in comparative context, or even when they are investigated within a national context, such as the US.

A point explored in part by Putnam (2000) is that different types of membership and association may result in different macrosocial outcomes. Like any form of capital, social capital can be

### Table 1: Structural and cultural dimensions of social capital

<table>
<thead>
<tr>
<th>Cultural dimension (Social trust)</th>
<th>Structural dimension (Associational activism)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Weak (e.g. East Asian countries including China, Japan, Taiwan)</td>
</tr>
<tr>
<td>Weak</td>
<td>Rich social capital (e.g. Nordic countries including Finland, Norway, Sweden, also West Germany)</td>
</tr>
<tr>
<td></td>
<td>Mixed (e.g. Spain and acceding EU countries plus Bulgaria and Turkey)</td>
</tr>
</tbody>
</table>

Source: adapted from Norris (2000, p. 23)
used for malign purposes – whether to exclude others, practice intolerance or for criminal or terrorist purposes – what Putnam refers to as its dark side (Putnam, 2000, pp. 350-363). However, Putnam also states that social capital without social mixing is better than no social capital at all as a second-best solution. Hence, separate schools, churches and associations are seen as beneficial in building a fraternal society (Putnam, 2000, p. 362), although these institutional divides have been widely accepted as contributing to lack of community cohesion (Home Office, 2001) and even institutional racism (Gillborn and Youdell, 2000) in the UK. Such a binary division between useful (i.e. most) social capital and its dark side is not necessarily helpful in understanding the relationship between associational membership and social outcomes. Possible conflicts between social capital and what we might refer to as social cohesion are clear.

4.1. Conclusion

It seems that there are problems in applying models which at the individual level imply a relationship between education, training and skills and citizenship benefits in a comparative context. First, as shown by exhaustive comparative studies (Torney-Purta et al., 2001) there are not necessarily relationships at the national level between skills, knowledge and civic outcomes. There is considerable variation in civic outcomes between countries with those nations scoring most highly on civic knowledge not necessarily being favoured with high levels of civic engagement. Indeed, there appear to be clear regional groupings, with a different group of countries with high levels of civic knowledge (the Nordic countries and transition countries) as compared to those with high levels of civic activity (a range of EU countries, excluding the Nordic countries). There is also considerable variation in the relationships between civic activity and other values, such as trust. Again, the story seems to indicate that simple causality between education and macrosocial outcomes is somewhat misplaced.

Our conclusions to this chapter are therefore
cautious. In signalling the role of specific historical conditions on the relationship between ET, trust, tolerance and social cohesion more generally, we would call for a reappraisal not only of the importance of historical contexts but also of the connection between structural relationships and social cohesion outcomes. Education may have important effects on many of the outcomes under consideration under certain conditions. However, many of the effects are indirect and conditional on other – often more powerful – contextual determinants. To study these effects therefore requires attention to time and place and the exhaustive analysis of a range of factors and variables operating at the macro level. Quantitative comparative analysis at the macro level will have some value where the variables are sufficiently carefully specified. However, much of the work of explaining complex interactions will require more in depth comparative qualitative analysis.
5. Evaluating the macrosocial benefits of education, vocational education and training

5.1. Is it possible to evaluate the macrosocial?

In examining the impact of ET on macrosocial benefits there are obvious limits to how far any single technique can hope to capture the range of benefits, their qualitative dimension and the historical and cultural context in which they are embedded. In this report, we have made reference to various techniques for ascertaining the macrosocial benefits of learning, involving qualitative and quantitative techniques. It seems that a mixed-methods approach to examining these benefits is required. For example, Eisner (2001) incorporates both statistical analysis and historical studies in examining trends in European homicide rates over time. Here statistical data is used descriptively in the analysis of trends. Eisner’s approach enables us to explain the trends involved with reference to factors other than variation between individuals, namely differences between education systems and other associated entities involved in the formation of nation-states. Although such an approach is probably optimal, in this report we use mainly statistical techniques in the evaluation of macrosocial benefits. However in future, the Centre for the wider benefits of learning (WBL) will develop the interrelationships between quantitative and qualitative techniques (Schuller et al., 2001).

When examining the macrosocial benefits of education, training and skills there are limits to how far the concept of evaluation can be used, at least in its summative sense. It is perhaps helpful to distinguish between three types of activity (Plewis and Preston, 2001): measuring, modelling and evaluation.

Measuring macrosocial outcomes is an activity engaged in by many international bodies such as the EU, OECD and the World Bank. Accurate measurement is central to any evaluation but measuring alone tells us little concerning the relationship between educational activities or systems and these benefits. For example, we cannot assume post hoc that an increase in life-expectancy in a country arises from increasing levels of education. To make such statements requires some preliminary form of modelling. At its most basic, this may involve descriptive comparison of aggregates through scatter plots or correlations. More advanced techniques such as multilevel modelling (MLM) or structural equation modelling (SEM) are also employed. The extent to which these represent analysis of actual macrosocial aggregates rather than contextualisation of microsocial relationships is a matter for debate.

One method of modelling would be to examine macrosocial and macro educational aggregates. Using time series data on educational levels, educational distributions, macrosocial aggregates and appropriate controls one would model relationships over time. This would allow speculation on causality – whether changes in education variables cause changes in social cohesion variables independently of other influences. Time series data on macrosocial and educational indicators over time is difficult to obtain, although McMahon (2000) constructs time series for a number of countries. In the EU, for example, measures of skill distribution (derived from the International adult literacy survey – IALS) or values (derived from the WVS) are only available over short time periods, where causality would be difficult to determine.

The ecological fallacy is often referred to as a reason why such macrosocial analysis is inappropriate. The ecological fallacy holds when the wrong units of analysis are considered in making an interpretation of data. For example, that both the mean level of education and the mean level of tolerance are high in a country does not indicate that there is a relationship between education and tolerance for all individuals in that country. Alternatively, that respondents in a country are generally more trusting does not mean that there is a national culture of trust as a property of that country – this is the fallacy of aggregation.

Although it is important to be aware of the
ecological fallacy, it is equally important to understand that the fallacy operates both ways. It is the importance of choosing an appropriate unit of analysis, not the automatic acceptance of methodological individualism which is implied by the fallacy. The aggregate level of trust elicited through individual trust levels may be meaningful in itself, and useful in analytical work. There are also some indicators which it is impossible to express at an individual level such as skill distributions, income distributions, ethnic conflict, industrial disputes or government corruption.

Another technique would be to use microsocial data to model the relationships between education and social outcomes in various countries and then to compare effect sizes. There are various approaches which could be utilised here such as regression analysis or multiple comparison of groups using SEM. The interpretation of such findings is a matter of some difficulty, though. That education has a bigger effect on social outcomes in one country than another does not necessarily mean that the education system of that country is better, or that conditions in that country are more adequate in facilitating the effects of education. Differences in the absolute levels of education and the social outcome may mean that education has a greater effect in those countries where general educational levels or levels of the social outcome are lower. It would also be possible to use MLM to examine interactions between countries, regions (where possible) and individual effects. Data considerations are very important when attempting to use MLM, for example a sufficient number of sampling units are required. This means that MLM is not necessarily an efficient technique when making comparisons among a small number of countries.

If robust estimates of effect sizes are obtained it may also be possible to monetarise these benefits in order to calculate a social rate of return. The social rate of return on education is an expression of the relative benefits and costs of an educational input. More precisely, it is the rate of discount at which the current and future stream of educational benefits for an individual and society are equal to the current and future stream of educational costs. Although many calculations of social rates of return are actually fiscal, concentrating only on the costs and benefits of education in terms of government expenditure and tax revenue, there has been significant progress by economists towards monetarising other social benefits such as intergenerational transfers, health and crime (McMahon, 2000).

How far social rates of return can be used as an indicator of the macroeconomic, or macro, rather than micro, social benefits of education is a matter for debate. Even if such an indicator were to be calculated, the difficulty of making international comparisons using the social rate of return is well documented (Bennell, 1998). As the social rate of return shows the marginal rate of return to education within a country, it makes little sense to aggregate or compare these marginal rates. If country A has a social rate of return on education of 8% and country B a social rate of return of 6%, it does not make sense to say that country A is more (or less) efficient at producing social outcomes of education than country B unless human capital assets are fully mobile between the two countries. Moreover, as the social rate of return is a marginal indicator, we cannot be sure how far additional investment in education will depress this rate. Clearly economic rates of return on learning are not necessarily macrosocial in that consequences for the individual taxpayer do not necessarily have an impact on social structures and the organisation of social life in general.

As social rates of return cannot specifically be considered a macrosocial property of education we have not discussed them at length in this report. Clearly, in bringing together both the social costs and social benefits of educational investment (and in reconciling the social and economic) they are potentially a powerful microeconomic tool. This potential has only been partially realised at present as those studies which do exist tend to focus on monetarising one, or at most two, social benefits of education (McMahon, 2000).

It is difficult to see how the calculation of a full social rate of return, using all social benefits, could be achieved. Many of the macrosocial effects of education such as social cohesion and changes in attitudes and values, which we have identified in this report could not be easily incorporated within a social rate of return (although this does not rule out other forms of economic modelling). Moreover, as the macrosocial effects arising from ET take effect over long periods of time, the social rate of return
would need to be calculated with reference to inter-generational considerations.

Modelling, whether in terms of regression, SEM, MLM or calculation of the social rate of return does not represent the same sort of activity as evaluation. Evaluation implies a systematic analysis of the effects of a particular programme or activity which should usually be built into the programme design. Modelling is not normally built into the programme design and does not usually involve an analysis of the effects of a particular programme. For example, modelling may examine the effects of educational level on social outcomes, whereas evaluation may involve the effect of a specific social programme on targeted social outcomes.

Comparatively, summative evaluation seems to be a poor model for research of this type. National education systems are of a different order to educational qualifications and certainly do not represent targeted programmes. This is not to say that specific programmes or policies cannot be evaluated in a summative sense. However, the evolution of education systems over time and their contested nature make us sceptical about claims that they are designed in order to meet discrete social objectives (although there may be general aims underlying education systems). Moreover, the embedded nature of education systems within national cultures and institutional structures means that it is difficult to separate out the effects of education. It may even be counterintuitive to do so given that the functions of education are so tightly embedded within other national systems such as the welfare state.

However, the identification of differences and similarities between countries and their systems is a staple of comparative research. For example Ragin (1981) explains how by systematically stating similarities and differences between countries one may arrive at a series of logical statements regarding country properties. This enables us to test hypothesis, or at least answer research questions, comparatively. The most powerful, macrocausal forms of comparison (Skocpol and Somers, 1980) involve logical analysis of multiple instances where a particular phenomenon occurs and the conditions they have in common, and the comparison of these with a range of instances where the phenomenon does not occur. Where certain condition(s) are common to the first set and are absent in the second set, and if the cases are otherwise similar, it can be concluded that these conditions represent causes of the phenomena in question. The procedure is, as with quantitative methods, open to the charge that there are possible causes which remained unobserved, but the logical comparative method has the distinct advantage that it treats each case as a totality, seeking to explain causal processes in the real context. This procedure is not totally contrary to evaluation. Moreover, the criteria of summative (final) evaluation are probably too strict for comparative work. Evaluation can be formative and examine development, rather than targets.

Hence it is probably best to consider research questions involving the macrosocial benefits of education as a hybrid somewhere between modelling and evaluation. Comparative research of this type cannot be evaluative in its summative sense as the targets to be met (the macrosocial benefits) cannot be modelled in such a way as to remove confounding influences. Countries are historically produced, open systems, and it is not possible to subject education systems or nation-states to control or experiment (at least social-democratic ones). It is possible, though, to gain understanding of developmental processes and to identify similarities and differences between countries. In this way, a hybrid representing modelling and formative judgements may represent the closest comparative research of this type can get to evaluation. With this in mind, we therefore proceed to a preliminary investigation of the effects of education, training and skills on macrosocial benefits.
From our review of literature, it would seem that there are three hypotheses worthy of investigation:
(a) macrosocial indicators do not form a coherent syndrome at national level;
(b) distribution of education is as important as educational levels in influencing macrosocial benefits;
(c) education/skill has a differential impact on various macrosocial indicators according to country context.

We will use two quantitative methods of investigation in exploring these hypotheses. First, we will provide an analysis involving country level aggregates from a combined data set. Second, an analysis will be conducted involving comparison of national groups using individualised respondent data.

6. The macrosocial benefits of education: a preliminary investigation

6.1. Education and social cohesion: a macrosocial approach

We begin by examining the ways in which macrosocial indicators relate to each other and to various educational aggregates. We have shown in our discussion how it is not only the properties of national education systems that are important in determining macrosocial outcomes, but also the distribution of educational qualifications and other related properties such as income distribution. As our discussion has shown, there is no reason to expect macrosocial indicators to covary across countries (Knack and Keefer, 1997) (Norris, 2000) (Newton and Norris, 2000).

In this analysis we select countries which are not only advanced democracies, but from which data is readily available from various international surveys. Specifically, we will be using data from the WVS, the IALS, Interpol crime statistics and the ICVS. Our country set includes mainly EU countries (Belgium, Denmark, Finland, Germany, Ireland, the Netherlands, Norway, Portugal, Sweden and the UK) although a small number of non-EU countries were also included (Australia, Poland and the US). We use various macrosocial indicators: general trust (GENTR) and trust in democracy (DEMTR); civic cooperation in terms of attitudes to cheating on taxes and public transport (TAXCH and TRANCH); a civic participation measure (GROUP); a tolerance indicator (TOLER); and measures of violent crime and a perception of risk of assault in the local community (CRIME and RISK). Note that these crime and community safety variables are coded so that a reduction in crime or risk would be thought to be socially beneficial.

As Table 2 shows (7) there is no significant relationship (8) between general trust (GENTR), associational memberships (GROUP) and opposition to cheating on public transport fares (TRANCH) at an aggregate level. Figure 1 shows in the form of a scatter plot the lack of clear relationship between group memberships (GROUP) and general trust (GENTR) at national level – elements which are often taken to be centrally coherent syndromes of social capital.

However, as Table 2 also shows, there are significant correlations between general trust (GENTR) and trust in government (DEMTR) (9) (r=.563, p=.029). There are also strongly significant relationships between general trust and a feeling of local safety (RISK) (r=-.724, p=.005) (p<0.001) and between norms of civic cooperation such as never cheating on taxes (TAXCH) and never cheating on public transport (TRANCH) (r=.592, p=.020) (p<0.001). These do not significantly correlate in our analysis with trust and membership, but in Knack and Keefer’s (1997) analysis of the same data, which uses an aggre-
gated factor based on answers to a larger number of questions about honesty and civic cooperation, there is a correlation between trust and civic cooperation values. Civic cooperation might therefore be included as a covariant of trust, although we have not done so in this analysis.

Table 2 also reveals a significant negative correlation between tolerance (TOLER) and never cheating on public transport (TRANCH) which might indicate that there is a perverse relationship between these liberal attitudes at a national level ($r = -.526, p = .044$). Those countries with a higher proportion of the population tolerating people in general are also significantly more likely to have a high proportion of the population who are prepared to cheat with their public transport fares. Interestingly, we also find a positive and significant relationship between civic participation (GROUP) and only one measure of civic cooperation, namely a belief that it is never right to cheat on taxes (TAXCH) ($r = .592, p = .020$).

Table 2: **Pearson correlation coefficients and levels of significance for social cohesion aggregates**

<table>
<thead>
<tr>
<th></th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>TOLER</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENTR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>GROUP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.003</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>DEMTR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.563 (a)</td>
<td>-.226</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.029</td>
<td>.417</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>TAXCH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.077</td>
<td>.592 (a)</td>
<td>-.312</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.786</td>
<td>.020</td>
<td>.257</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>TRANCH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.195</td>
<td>.071</td>
<td>.223</td>
<td>.554 (a)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.486</td>
<td>.801</td>
<td>.425</td>
<td>.032</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>CRIME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>-.146</td>
<td>.407</td>
<td>-.177</td>
<td>.430</td>
<td>-.087</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.603</td>
<td>.132</td>
<td>.528</td>
<td>.110</td>
<td>.757</td>
<td>.757</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>TOLER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.095</td>
<td>.351</td>
<td>-.262</td>
<td>.121</td>
<td>-.526 (a)</td>
<td>.250</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.737</td>
<td>.200</td>
<td>.345</td>
<td>.667</td>
<td>.044</td>
<td>.370</td>
<td>.370</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>RISK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>-.724 (b)</td>
<td>.013</td>
<td>-.372</td>
<td>.026</td>
<td>.075</td>
<td>.012</td>
<td>-.266</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.005</td>
<td>.965</td>
<td>.210</td>
<td>.932</td>
<td>.808</td>
<td>.970</td>
<td>.380</td>
<td>.380</td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

(a) Correlation is significant at the 0.05 level (2-tailed)
(b) Correlation is significant at the 0.01 level (2-tailed)
6.2. Correlation between education and social cohesion measures

In order to test correlation across countries between education and our measures of social cohesion we need some valid national measures of education. Here we use the data on literacy in the IALS. This survey has been criticised by some (Blum et al., 2001) for cultural bias, but it at least has the merit of attempting to provide direct measures of skills, rather than proxies such as schooling years or qualifications. One may assume that the skills that it is measuring are related to both the quantity and quality of education received.

As Table 3 shows, there are no significant correlations (p<0.05) across countries between aggregates for education levels (PROUS – the mean level of upper-secondary attainment in literacy) and measures for social cohesion although there are significant correlations for TOLER, TRANCH and RISK at the 10 % significance level (p<0.10). These results should be no surprise given what we have said already about the likelihood that national cultural and institutional factors greatly outweigh gross education effects on social cohesion. We therefore look next at the impact of educational inequality on social cohesion, on the basis that comparative historical and theoretical literature suggests that social cohesion is highly sensitive to distributional effects.

6.3. Educational inequality and social cohesion

We have used results from all cycles of the IALS to ascertain the distribution of educational outcomes, in terms of literacy skills, across a number of countries also included in the WVS. Using a similar

Table 3: Pearson correlation coefficients and levels of significance for mean level of upper secondary attainment and social cohesion aggregates

<table>
<thead>
<tr>
<th>PROUS</th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>TOLER</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROUS</td>
<td>Pearson correlation</td>
<td>.354 (a)</td>
<td>-.120</td>
<td>.244</td>
<td>-.376</td>
<td>-.487</td>
<td>-.055</td>
<td>.491</td>
</tr>
<tr>
<td>Sgl. (2-tailed)</td>
<td>.196 (b)</td>
<td>.670</td>
<td>.381</td>
<td>.167</td>
<td>.066</td>
<td>.845</td>
<td>.063</td>
<td>.078</td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

(a) Correlation is significant at the 0.05 level (2-tailed)
(b) Correlation is significant at the 0.01 level (2-tailed)
methodology to Nickell and Layard (1998, p. 67) we calculated a test score ratio based on the differences between the average literacy levels of those who attended minimal compulsory education for that country and those who continued their education after the upper secondary level. Following the method used by the OECD (2000) when assessing the social consequences of inequalities in literacy, we used the measure of prose literacy rather than the measure of quantitative literacy employed by Nickell and Layard (1998, p. 67). There may be questions about the suitability of these measures, or a combined measure as a proxy for skill distribution in the labour market, and this is an issue for further debate. Table 4 shows the mean prose scores for those whose educational level is less than upper secondary (PROLEUS), for those who have attained upper secondary education (PROUS) and for those who have attained some tertiary education (PROTERT). The test score ratio (P3) is the ratio of the score of those attaining tertiary education (PROTERT) to those attaining lower than upper secondary education (PROLEUS). Hence it is the ratio between the level of attainment of those who have experienced post-compulsory education and those who have only attained the lowest level of secondary education.

The results show that measures of inequality in skills outcomes are rather higher in English-speaking countries such as Canada, the UK and the US than in some continental and Nordic countries such as Germany and Sweden. The relative positions of countries here confirm some of the findings on skills spreads by Brown et al. (2001), based on analysis of IEA data for test scores at 14 years old, and Green and Sakamoto (2001) based on adult distributions of qualifications. They have also been broadly confirmed in the recent OECD PISA study (OECD, 2001).

If we correlate national measures of skills distribution against national measures of social cohesion (Table 5) we find that there is a significant (p<0.05) correlation (r=-.592, p=.020) between educational inequality (P3) and one commonly used macrosocial measure, the general level of trust (GENTR). Hence, the higher the level of educational inequality, the lower the level of general trust. This is demonstrated in Figure 2 which shows a scatter plot of general trust, as measured in the WVS, against skills distribution, as measured by the skills ratio (P3). There is clearly a negative relationship between the two variables with those countries with low inequality of skills (such as Denmark, Norway and Sweden) also having high levels of trust and those countries with high inequality of skills (such as Portugal, the UK and the US) having low levels of trust.

<table>
<thead>
<tr>
<th>Country</th>
<th>PROLEUS</th>
<th>PROUS</th>
<th>PROTERT</th>
<th>P3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>250.60</td>
<td>280.00</td>
<td>310.40</td>
<td>1.24</td>
</tr>
<tr>
<td>B</td>
<td>242.50</td>
<td>281.00</td>
<td>312.30</td>
<td>1.29</td>
</tr>
<tr>
<td>CA</td>
<td>233.40</td>
<td>283.80</td>
<td>314.80</td>
<td>1.35</td>
</tr>
<tr>
<td>CH</td>
<td>228.10</td>
<td>274.10</td>
<td>298.30</td>
<td>1.31</td>
</tr>
<tr>
<td>D</td>
<td>265.60</td>
<td>283.80</td>
<td>310.10</td>
<td>1.17</td>
</tr>
<tr>
<td>DK</td>
<td>252.80</td>
<td>278.10</td>
<td>298.50</td>
<td>1.18</td>
</tr>
<tr>
<td>FIN</td>
<td>261.60</td>
<td>295.90</td>
<td>316.90</td>
<td>1.21</td>
</tr>
<tr>
<td>IRL</td>
<td>238.80</td>
<td>288.20</td>
<td>308.30</td>
<td>1.29</td>
</tr>
<tr>
<td>NL</td>
<td>257.50</td>
<td>297.00</td>
<td>312.10</td>
<td>1.21</td>
</tr>
<tr>
<td>NO</td>
<td>254.50</td>
<td>284.40</td>
<td>315.10</td>
<td>1.24</td>
</tr>
<tr>
<td>P</td>
<td>206.60</td>
<td>291.50</td>
<td>304.80</td>
<td>1.48</td>
</tr>
<tr>
<td>PL</td>
<td>210.50</td>
<td>252.70</td>
<td>277.30</td>
<td>1.32</td>
</tr>
<tr>
<td>S</td>
<td>275.40</td>
<td>302.30</td>
<td>329.10</td>
<td>1.19</td>
</tr>
<tr>
<td>UK</td>
<td>247.90</td>
<td>281.90</td>
<td>309.50</td>
<td>1.25</td>
</tr>
<tr>
<td>US</td>
<td>207.10</td>
<td>270.70</td>
<td>308.40</td>
<td>1.49</td>
</tr>
</tbody>
</table>
6.4. Education and income inequality

In our literature review we have referred to the influence of the distribution of income, or at least of opportunity, on macrosocial outcomes. We can test the effects of educational distributions on income distributions using a method adapted from Nickell and Layard (1998).

In measuring the degree to which skill differentials correspond to income inequality, Nickell and Layard (1998) employ earnings ratios, i.e. the ratio of incomes between individuals of differing educational levels. In this paper, we employ measures of income inequality (GINI) coefficients which are a more general measure of earnings inequality for the whole population. GINI coefficients employed are provided in Table 6.

Figure 3 shows the relationship between educational inequality, measured by the test score ratio P3, and income inequality for the 15 countries in our sample. As can be seen, there is an association between distributions of literacy skills and income inequality. Economies with a high degree of skill disparity also have high degrees of income inequality and vice-versa. As shown in Figure 3, there is a clear relationship between the test score ratio (P3) and the GINI coefficient. This relationship is statistically significant (p<0.01) with a positive and large correlation coefficient (r=.650, p=.009).

We cannot know from this correlation which way any causality may run. It is quite probable that income equality impacts on educational equality through equalising access to education. It is also likely that social cohesion and solidaristic cultures and political ideologies promote both income equality and educational equality through equalising aspirations and supporting certain types of

---

**Table 5: Pearson correlation coefficients and levels of significance for distribution of educational attainments and social cohesion aggregates**

<table>
<thead>
<tr>
<th></th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>TOLER</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>-0.592 (a)</td>
<td>0.333</td>
<td>-0.283</td>
<td>0.265</td>
<td>0.171</td>
<td>0.398</td>
<td>-0.060</td>
<td>0.404</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.020</td>
<td>0.225</td>
<td>0.307</td>
<td>0.340</td>
<td>0.543</td>
<td>0.142</td>
<td>0.831</td>
<td>0.171</td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

(a) Correlation is significant at the 0.05 level (2-tailed)
policy interventions. Minimum wages and other forms of labour market regulation that make wage agreements binding and inclusive for entire sectors may well enhance income equality (Blau and Kahn, 1996) (Nickell and Layard, 1998). Measures to equalise resources for, and admissions to, schools may make educational outcomes more equal, as may shared aspirations about the value of schooling; this has been argued in the case of the at least until recently highly egalitarian Japanese education system (Green, 1999). These relationships are still to be investigated but our analysis here of correlations at least suggests that there is an issue to be explored.
6.5. Income inequality and macrosocial outcomes

The next stage in the model requires that we test whether there is an association between income inequality and macrosocial outcomes. Table 7 provides the results of the analysis of correlations between income inequality and our social cohesion aggregates. For the 15 countries in our sample we failed to find a significant relationship between income inequality and association membership. However, a significant positive relationship between income inequality and violent crime (CRIME) ($r=.640$, $p=.010$) and the perceived risk (RISK) of assault in the community ($r=.636$, $p=.020$) was identified in addition to a significant negative relationship between income inequality and general trust (GENTR) ($r=-.547$, $p=.035$).

The effect of income inequality on these macrosocial outcomes persists even when we control for the general level of economic activity. In this model (Table 8), the gross national product (GNP) per capita is used as a control, hence the correlation coefficients presented are partial correlation coefficients. The measure of GNP per capita used was taken from the purchasing power parity index employed by the World Bank (2001). After introducing controls, the partial correlation coefficients between income inequality and general trust (GENTR) ($r=-.562$, $p=.037$) remain significant. As before, we find that inequality decreases general trust but increases violent crime (CRIME) ($r=.660$, $p=.010$) and increases perceptions of risk of crime (RISK) ($r=.628$, $p=.029$). We also find that controlling for GNP per capita means that the association between income inequality and civic participation becomes significant (GROUP) ($r=.595$, $p=.025$). Hence, even in our reduced sample, it is possible to locate a positive relationship between income inequality and civic participation.

Our analysis of macrosocial indicators has shown, as the literature discussed above suggested, that there are no necessary correlations between macrosocial outcomes at national level. Although we have not examined trends over time in this paper, it is difficult to accept that increasing levels of education over time have had a uniformly positive effect on macrosocial indicators. The mean level of skill in literacy in each country does not correlate with any measure of macrosocial welfare, although the distribution of this skill does correlate with general trust. The distribution of this skill is also correlated with income inequality, which in turn seems to be negatively correlated with many macrosocial benefits including crime.

<table>
<thead>
<tr>
<th>GINI</th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>RISK</th>
<th>TOLER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson correlation</td>
<td>-.547 (a)</td>
<td>.414</td>
<td>-.305</td>
<td>.403</td>
<td>-.009</td>
<td>.640 (a)</td>
<td>.636 (a)</td>
</tr>
<tr>
<td></td>
<td>Sglg. (2-tailed)</td>
<td>.035</td>
<td>.125</td>
<td>.269</td>
<td>.136</td>
<td>.975</td>
<td>.010</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

(a) Correlation is significant at the 0.05 level (2-tailed)

<table>
<thead>
<tr>
<th>GINI</th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>TOLER</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson correlation</td>
<td>-.562 (a)</td>
<td>.595 (a)</td>
<td>-.032</td>
<td>.430</td>
<td>-.004</td>
<td>.660 (a)</td>
<td>.270</td>
</tr>
<tr>
<td></td>
<td>Sglg. (2-tailed)</td>
<td>.037</td>
<td>.025</td>
<td>.293</td>
<td>.125</td>
<td>.989</td>
<td>.010</td>
<td>.350</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

(a) Correlation is significant at the 0.05 level (2-tailed)
As a second approach to assessing the effects of education on macrosocial outcomes, we adopt an approach using microsocial data within comparative context. We tackle similar questions as in the macrosocial analysis. First, we examine whether there are differences in the composition of various social indicators between countries. That is if the measurement indicators are invariant. Second, we examine the effects of educational level on these social indicators in order to ascertain whether there are systematic differences between the four countries. As we are now dealing with microsocial indicators we are limited both in terms of the indicators we use and the data set(s) employed. As we are dealing with individual level data we cannot use indicators such as the distribution of skills or income. In addition, we cannot merge data sets such as the WVS and IALS which utilise different samples of respondents.

The 1995 sweep from the WVS probably presents the optimum choice both in terms of social variables and a standard measure of educational level. We included data from four countries: Sweden representing a Nordic country (N = 1,009), Western Germany representing a Northern continental country (N = 1,017), Spain representing a Mediterranean country (N = 1,211), and Poland representing a former Eastern European block (and future EU acceding) country (N = 1,153). In total there were 4,390 respondents. The WVS recommends weighting of the samples in order to arrive at equal sample sizes. Using different weights within each country the sample sizes were boosted to 1,503 for Sweden, 1,495 for Western Germany, 1,503 for Spain and 1,499 for Poland, in total 6,000 subjects.

We analyse four social outcome variables. Political action is a measure of to what extent people have carried out or would potentially carry out actions directed against the establishment in order to improve the current state of affairs. Respondents indicated on three point scales (1-3) whether they have done, might do or would never carry out a certain action. We based the scale on three items indicating ordinary action; sign a petition, joining a boycott and attending a lawful demonstration. Initial analysis showed that including two more extreme activities (as indicated by the skewnesses of the items), joining unofficial strikes and occupying buildings or factories, fitted SEM models less well than models in which these two items were not included. Hence, the scale was assumed to probe ordinary instead of extreme action. The scale was reverse coded with higher values indicating more action. The mean internal consistency, as measured by Cronbach’s alpha, was .71 across the four countries.

Trust in institutions was measured by responses to the question ‘could you tell me how much confidence you have in (institution)?’ Answers were given on four point scales: 1 = a great deal, 2 = quite a lot, 3 = not very much, 4 = none at all. We selected three institutions, the legal system, parliament and civil service, and reverse coded the scale, higher values indicating more trust. The mean internal consistency across the countries as measured by Cronbach’s alpha was .67.

Support for democracy was measured with three items. The respondents rated on four point scales to what extent they agreed with each statement (1 = agree strongly; 2 = agree; 3 = disagree; 4 = disagree strongly). The three statements were ‘in democracy, the economy system runs badly’, ‘democracies are indecisive and have too much squabbling’ and ‘democracies aren’t good at maintaining order’. After initial analysis it was decided to drop a fourth item ‘democracy may have problems but it’s better than any other form of government’ which, in some countries, did not load on the same factor as the three first mentioned items. Given that the statements were negative, negative responses to these (i.e., higher values) were taken to be indicative of support for democracy in general. The mean internal consistency was a Cronbach’s alpha of 0.77.

Race tolerance was measured with three items. The respondents were asked to sort out who they would not like to have as a neighbour from a list of distinctive groups. We used responses to other races, immigrants and
Muslims. Responses for each group were coded 0 if they mentioned the group and 1 if they did not. The scale was thus formed as an index ranging from 0 to 3, higher values indicating more tolerance (i.e., they had nominated fewer of the mentioned groups as potential neighbours). The three items were all skewed. The mean internal consistency was a Cronbach's alpha of 0.67.

Our main predictor of these variables is educational level, while we controlled for the effects of socioeconomic status and age. Education level was recorded according to the structural options available within each country and standardised within each country in order to make these comparable. We also standardised socioeconomic status (SES), which was measured in different ways across countries and ages. Initial analyses showed that age, SES and education level were interrelated in two expected ways. First, older participants within each country had a lower level of education and second, educational level and SES were positively correlated.

A technique known as structural equation modelling (SEM) was employed to model the effect of education on each of the social outcomes. SEM allows us to analyse the impact of education on various latent variables, measuring the social outcomes simultaneously, and to compare effects to identify systematic differences between countries. The full details of the modelling are provided in Annex 2 where we explain how the models were specified and confirm that the models were an adequate fit to the data across all four countries. Here we will concentrate on the substantive results.

Figure 4 shows the effect of education on various microsocial indicators of social cohesion: political action (POL), institutional trust (INST), trust in democracy (DEM) and race tolerance (RACE). The diagrams show the effect of education having controlled for socioeconomic status and age. Each arrow shows the effect size in terms of both standardised and non standardised regression coefficients. For example, in Sweden, the effect of education on political action is 0.09, or 0.24 when standardised. As explained in Annex 2, we used significance tests to show where the effect sizes differed significantly between countries. Results show that effect sizes for both Sweden and Poland are significantly different from those in the other countries, namely, the effect of education on both trust in institutions and trust in democracy was stronger in Sweden. In addition, the effect of education on political action was lower in Sweden. Somewhat surprisingly, the effect of education on racial tolerance was higher in Poland than the other countries.

There are two possible explanations for these effects. First, that the effects simply represent differences in country means (10). That is, in countries with a low mean score for racial tolerance (for example), education will have a stronger effect as there is more room for potential increases in the tolerance score. This argument may apply in the case of Poland where, as the IEA study shows, levels of racial tolerance are low. This is also confirmed in the data used in this study. Table 9 shows the raw weighted means for each country, and Poland has the lowest mean level of racial tolerance (2.33). This may also be the case for institutional trust in this study, where descriptive statistics show that the Swedish level of institutional trust is below that of the other four countries in the study with a mean value of 2.51.

Second, it could be tentatively argued that differences in education effects represent differences in the socialisation effects of education (as opposed to other influences) in these countries. In Sweden, for example, it could be argued that education has a central role in imparting trust whereas socialisation into forms of political action may occur through involvement in the community or workplace (given Sweden's high rates of unionisation and the importance of unions in national policy determination). In Poland, the education system may play an important function in terms of increasing racial tolerance, whereas for the other three countries the family or community may have a more important role.

These conclusions are tentative in that further analysis and more qualitative studies are required. However, we have shown here the possibilities of using microsocial analysis to illuminate, although not explain, macrosocial differences in education systems in terms of their socialisation functions.

---

(10) As the variables used in this SEM are latent variables we can not readily convert effect sizes into marginal effects (e.g. the effect of a level of education on a unit change in tolerance, for example) although we may compare effect sizes between countries. Mean values are given for the sample population as a whole and are indicative of the general level of the variables in each country.
Figure 4: Effects of education on social cohesion in four countries (non standardised and standardised regression coefficients) with controls for socioeconomic status and age

Note:
EDUC = Educational level standardised within each country
SES = Socioeconomic status standardised within each country
AGE = Age standardised within each country
POL = Political action
INST = Trust in institutions
DEM = Support for democracy
RACE = Race tolerance

(a) regression path that is significantly different from path in the other three countries as tested in a nested model comparison (Dc2; p < .05). For sake of readability regression paths from SES and AGE, as well as latent correlations were omitted.

Table 9: Raw weighted means and standard deviations (in brackets) within each country

<table>
<thead>
<tr>
<th>Country</th>
<th>POL</th>
<th>INST</th>
<th>DEM</th>
<th>RACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>2.30 (.52)</td>
<td>2.51 (.55)</td>
<td>2.82 (.71)</td>
<td>2.79 (.58)</td>
</tr>
<tr>
<td>Western Germany</td>
<td>2.18 (.51)</td>
<td>2.60 (.50)</td>
<td>3.01 (.54)</td>
<td>2.84 (.47)</td>
</tr>
<tr>
<td>Spain</td>
<td>1.65 (.60)</td>
<td>2.68 (.62)</td>
<td>2.75 (.60)</td>
<td>2.73 (.69)</td>
</tr>
<tr>
<td>Poland</td>
<td>1.57 (.55)</td>
<td>2.68 (.64)</td>
<td>2.14 (.65)</td>
<td>2.33 (1.04)</td>
</tr>
</tbody>
</table>

NB: POL = political action, INST = trust in institutions, DEM = support for democracy. RACE = race tolerance
In this paper we have explored the effects of education, training and skills on a wide range of macrosocial outcomes including crime, social cohesion, citizenship, civic and political participation. Through a review of literature and statistical modelling we have mapped out both the problem aspects of methodological individualism and the comparative approach. In particular, the possibility for summative evaluation (rather than measuring or modelling) of education systems appears to be limited, although the component parts of national education systems are open to evaluation. We suggest instead that evaluation of macrosocial benefits requires a hybrid approach to evaluation involving both modelling and formative evaluation. The procedures advanced by Ragin (1981) appear to be helpful in this respect as they enable us, through the method of similarity and difference, to construct workable research questions concerning the outcomes of education.

In terms of the status of various models of the relationship between education and social outcomes, we are troubled that many of these models are specified at the individual level. While many microsocial impacts of education within countries are best specified as relations involving individual resources, knowledge and skills, when comparing countries the country context matters. Moreover, country context is more than just another variable and is not ecological in a simple sense. There are expressions of national context such as distributions of skills and income, education systems and culture which cannot be specified except in comparison to other countries.

With regard to macrosocial benefits of education, training and skills there are a few generalisations which can be made across all EU countries.

First, that for some macrosocial benefits (or costs) there are common structural antecedents. Various forms of criminal activity can be regarded as local manifestation of structural phenomena. For example, with regard to work on football hooliganism (Dunning, 2000), juvenile delinquency and hate crime (Watts, 2001) and possibly tolerance, similar structural antecedents (unemployment and alienation) related to education are implicated. The relevance of income distribution (and by implication the distribution of skills) and the spatial characteristics of high crime areas are also potentially similar structural antecedents of crime (Kelly, 2000) (Lee, 2000). As shown by our work using macrosocial aggregates, there are clearly relationships between educational inequality, income inequality and outcomes such as general trust, crime and feelings of community safety.

Second, the clustering of social benefits and educational level which one may see at the micro level does not necessarily hold at the macro. Educational level and social benefits such as general (and other forms of) trust, association memberships and crime are not necessarily related at the national level as evidenced by our literature review and our modelling of macrosocial outcomes. Macrosocial outcomes are not related at the country level and do not form a coherent syndrome (Putnam, 2000). The implications for education systems are that generalisations concerning the role of education in the rebuilding of civil society (social capital investment) or in fostering widespread political involvement through civics education are not applicable across nation-states. While such policies are not necessarily misguided, in that some individuals may benefit, the effect on national levels of social outcomes may be small or non-existent. As our literature review has shown, there is much evidence that increases in the general level of education have not had any effect on national levels of tolerance, crime or social cohesion. Evidence from Wilkinson (1996, p. 20) supports this general conclusion with respect to health: ‘In effect, the extent of the variation around a society’s norms is fixed so that the proportion of people with bad diets, who are heavy drinkers, who have high blood pressure etc. is a reflection of where the society’s norms are […] it was easier to change the societal norms than to leave them unchanged while trying to reduce the proportion of the population over some level of risk.’

However, that societal norms and inequalities are hard to change does not mean that there is no role for education or training. As Eisner’s work
(2001) explains, the effects of various institutions implicated in state formation (such as education) may only be seen to have effects over a long period of time. Moreover, we may speculate as to the role of education systems in various regional groupings on the formation of values and the construction of inequalities.

To illustrate this point, it is clear that the Nordic countries form a group of high trust, mainly low crime countries where general levels of civic participation are also moderate. In the Danish case, this is combined with high levels of lifestyle permissiveness but rather low levels of tolerance towards foreigners (at least on Halman’s evidence, 1994). The high levels of trust may be associated with various non-education macro factors such as the strongly solidaristic welfare states and historically relatively high levels of ethnic/cultural homogeneity (Knack and Keefer, 1997), although we have not examined these factors here. They may also relate to relatively high levels of income equality. Lower levels of ethnic tolerance in Denmark may be associated, paradoxically, with that same emphasis on cultural homogeneity that may be conducive towards high trust in this case (although we do not suggest that these relationships would hold in all national contexts). We may hypothesise that relative equality of educational outcomes promotes trust and lower crime through its impact on income equality. The strong effect in Sweden of education on trust in institutions and in democracy may be attributable to the strong solidarity principles enshrined in curricula and in the universal nature of primary and secondary school systems which remain comprehensive and non-selective up to the end of upper secondary schooling (gymnasieskola). However, the lower levels of civic association (compared to other – mostly European – countries in our sample) may result from the historically prominent role of the state in Nordic social democracy in promoting equity and inclusion and to the success of this in promoting social equity. This may seem to obviate the need to take political action outside mainstream channels. The evidence from our micro level analysis that education has a weak effect on civic association in Sweden may reflect the fact that civic participation in Sweden is highly institutionalised, not least with the prominent role of trades unions within the social partnership system.

In contrast, the UK has high levels of crime and scores low relative to the other countries in our sample on both trust and association, while also being low on tolerance according to Halman’s evidence (1994). Although (due to data constraints) the UK was not included in our microsocial analysis, an historical overview sheds light on why this might be the case. Non-education macro factors associated with higher crime and lower trust may include the high rates of income inequality (among the highest in the EU) and higher levels of intolerance may relate in part to historically high levels of immigration over the past 40 years (Halman, 1994). Education may play a part in generating lower levels of trust and higher crime through its impact on income inequality. A high level of market influence, relative to the rest of Europe, with high levels of inequality in outcomes between schools and regions, and consequently wide distributions of educational outcomes, may be significant in generating income inequality and lower trust. The latter arises both through its effect on income inequality and more directly through the competitive values it promotes, which are not counteracted by any Nordic style emphasis on social solidarity in the school curriculum. Since differences between schools reflect ethnic differences, given the tendency for increasing ethnic concentration/segregation in schools in a quasi-market system, this may also play a part in both decreasing trust and increasing intolerance (the latter because of the reduction in ethnic mixing). The low to moderate UK level of association relative to the rest of the countries in our reduced sample is harder to explain given Britain’s history of valuing civil society and intermediate associations (Gramsci, 1971), although the reduction in trade union membership and activity following the restrictive laws brought in by the Thatcher government after 1979 may have had some effect.

These are obvious generalisations and somewhat stereotypical depictions of these countries’ education systems. We do contend, though, that the macrosocial benefits of ET are rooted both in the distribution of educational outcomes and in the values transmitted through education systems. They are also contingent on the relationship between education and the labour market and other parts of the welfare state. Although there are cultural limits to the extent to which policy borrowing is appropriate with regard to education systems, there are clear lessons for policy-makers. In particular, raising educational skills and training levels
is neither a necessary nor sufficient condition for promoting macrosocial benefits. However, improving the distribution of educational outcomes may be one way in which education and training can make some contribution to more general economic and social redistribution.
List of abbreviations

AGE  Age standardised
AIC  Akaike information criterion
CFI  Comparative fit index
CRIME  Violent crime
DEM  Trust in democracy/support for democracy
DEMTR  Trust in democracy/trust in government
EDUC  Educational level standardised
ET  Education and training
ETGACE  Education and training for active citizenship in Europe
EVS  European values survey
GDP  Gross domestic product
GENTR  General trust
GINI  Measures of income inequality
GNP  Gross national product
GROUP  Civic participation measure/associational memberships/group membership
IALS  International adult literacy survey
ICVS  International crime victimisation survey
IEA  International association for the evaluation of educational achievement
INST  Institutional trust
ISRD  International self-report delinquency study
MLM  Multi-level modelling
P3  Test score ratio/measure of educational inequality
POL  Political action
PROLEUS  Educational level lower than upper secondary
PROTERT  Tertiary education attained
PROUS  Upper secondary education attained/the mean level of upper-secondary attainment in literacy
RACE  Race tolerance
RISK  Risk of assault/perceived risk/feeling of local safety
RMSEA  Root mean square error of approximation
SEM  Structural equation modelling
SES  Socioeconomic status
TAXCH  Cheating on taxes
TOLER  Tolerance indicator
TRANCH  Cheating on public transport
VET  Vocational education and training
WVS  World values survey
As no one data set could satisfy the international comparisons required, a combined data set was constructed using data from the WVS, IALS, World Bank, Interpol statistics and the ICVS. All data used was from the years 1990 to 2000. Fifteen countries were included in the core data set being Australia, Belgium, Canada, Denmark, Finland, Germany, Ireland, the Netherlands, Norway, Poland, Portugal, Sweden, Switzerland, the UK and the US. Social cohesion variable levels for each country are given in Table 10.

Social cohesion measures were obtained from the most recent country sweep available of the WVS. In most cases, data used was from the 1995 to the 1997 sweep, although when data for these years was not available, data from the 1990 sweep was substituted.

General trust (GENTR) was measured by the percentage of individuals sampled in each country who agreed that most people could be trusted when asked: ‘Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?’ (WVS, question V27).

Associational memberships (GROUP) was measured by the mean number of associational memberships for sampled individuals in each country, not including memberships of sporting associations (WVS, questions V28 and V30-V36).

Trust in government (DEMTR) was measured by the percentage of individuals sampled in each country who agreed or strongly agreed that they had confidence in their parliament (WVS, question V144).

Civic cooperation measures cheating on public transport fares (TRANSC) and cheating on taxes (TAXCH). They were measured by the percentage of individuals in each country who stated that such actions were never justifiable (WVS, questions V193 and V194).

### Table 10: Macrosocial aggregates for 15 countries

<table>
<thead>
<tr>
<th>Country Code</th>
<th>Country</th>
<th>GENTR</th>
<th>GROUP</th>
<th>DEMTR</th>
<th>TAXCH</th>
<th>TRANCH</th>
<th>CRIME</th>
<th>TOLER</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>Australia</td>
<td>39.90</td>
<td>1.06</td>
<td>30.60</td>
<td>62.10</td>
<td>62.80</td>
<td>37.38</td>
<td>95.42</td>
<td>2.25</td>
</tr>
<tr>
<td>B</td>
<td>Belgium</td>
<td>30.60</td>
<td>.28</td>
<td>42.80</td>
<td>33.90</td>
<td>57.70</td>
<td>29.84</td>
<td>82.28</td>
<td>1.89</td>
</tr>
<tr>
<td>CA</td>
<td>Canada</td>
<td>50.70</td>
<td>.47</td>
<td>37.90</td>
<td>59.20</td>
<td>61.90</td>
<td>109.21</td>
<td>94.30</td>
<td>1.78</td>
</tr>
<tr>
<td>CH</td>
<td>Switzerland</td>
<td>37.80</td>
<td>.68</td>
<td>43.90</td>
<td>53.70</td>
<td>59.30</td>
<td>34.40</td>
<td>89.99</td>
<td>1.87</td>
</tr>
<tr>
<td>D</td>
<td>Germany</td>
<td>41.80</td>
<td>.54</td>
<td>29.40</td>
<td>40.10</td>
<td>38.60</td>
<td>86.92</td>
<td>95.60</td>
<td>N/A</td>
</tr>
<tr>
<td>DK</td>
<td>Denmark</td>
<td>57.70</td>
<td>.18</td>
<td>42.00</td>
<td>57.30</td>
<td>74.50</td>
<td>47.69</td>
<td>89.95</td>
<td>1.67</td>
</tr>
<tr>
<td>FIN</td>
<td>Finland</td>
<td>46.90</td>
<td>.32</td>
<td>32.40</td>
<td>57.40</td>
<td>62.60</td>
<td>45.42</td>
<td>85.44</td>
<td>1.77</td>
</tr>
<tr>
<td>IRL</td>
<td>Ireland</td>
<td>46.80</td>
<td>.23</td>
<td>50.30</td>
<td>48.80</td>
<td>57.50</td>
<td>96.88</td>
<td>93.78</td>
<td>1.99</td>
</tr>
<tr>
<td>NL</td>
<td>Netherlands</td>
<td>55.80</td>
<td>.36</td>
<td>51.60</td>
<td>42.90</td>
<td>55.80</td>
<td>121.46</td>
<td>88.64</td>
<td>1.83</td>
</tr>
<tr>
<td>NO</td>
<td>Norway</td>
<td>64.80</td>
<td>.61</td>
<td>69.50</td>
<td>47.50</td>
<td>70.20</td>
<td>31.26</td>
<td>81.75</td>
<td>N/A</td>
</tr>
<tr>
<td>P</td>
<td>Portugal</td>
<td>20.70</td>
<td>.19</td>
<td>33.50</td>
<td>39.90</td>
<td>53.40</td>
<td>62.57</td>
<td>90.53</td>
<td>2.18</td>
</tr>
<tr>
<td>PL</td>
<td>Poland</td>
<td>34.50</td>
<td>.03</td>
<td>34.50</td>
<td>55.20</td>
<td>68.10</td>
<td>71.04</td>
<td>75.89</td>
<td>2.29</td>
</tr>
<tr>
<td>S</td>
<td>Sweden</td>
<td>56.60</td>
<td>.52</td>
<td>44.60</td>
<td>49.30</td>
<td>47.00</td>
<td>85.38</td>
<td>95.34</td>
<td>1.68</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
<td>29.10</td>
<td>.20</td>
<td>46.10</td>
<td>53.90</td>
<td>59.40</td>
<td>144.83</td>
<td>88.30</td>
<td>2.10</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
<td>35.00</td>
<td>1.63</td>
<td>30.30</td>
<td>73.60</td>
<td>66.50</td>
<td>209.85</td>
<td>90.31</td>
<td>1.95</td>
</tr>
</tbody>
</table>
The measure of educational inequality (P3) was obtained from IALS secondary data by dividing the mean prose score of those individuals who had completed tertiary education by the mean prose score of those who had completed upper secondary education only. To compute these scores, we utilised the most recent sweep of IALS data (OECD and Statistics Canada, 2000).

Measures of income inequality (GINI) and GNP per capita (GNPCAPIT) were taken from the most recently available World Bank Statistics (World Bank, 2001, pp. 282-283).

The measure of crime (CRIME) was obtained from Interpol statistics for 1996 (International Criminal Police Organisation, 1996). The measure of crime used being the sum of homicides, robberies and violent thefts per 10,000 inhabitants.

The measure of tolerance (TOLE) was obtained from question V57 of the WVS and measures the percentage of respondents in each country who would not mind having an immigrant as a neighbour.

The measure of perceived risk of crime (RISK) was obtained from the mid-1990s, or most recent possible, sweep of the ICVS and measures the mean score for each country from respondents’ feelings of safety when walking alone after dark in the area (very safe=1, very unsafe=4). Figures were not available for Germany and Norway and so these countries were not included in analysis involving this variable.
The raw data was first screened for missing values, which were replaced using regression imputation techniques as available in the SPSS MVA module. Regression imputation techniques provide less biased parameter estimates than do list wise or pair wise deletion or mean value imputation of data. After the data imputation, correlation matrices, and mean and standard deviation moments were estimated in weighted samples, the data was imported into the AMOS software.

We then conducted the following analyses. First, by using SEM techniques we set up a Confirmatory factor analyses (CFA) in order to test the structural validity of a model including four latent constructs and three manifest indicators for each construct. This means that we wanted to investigate whether the items actually measured the underlying property that we hypothesised, by testing this empirically. The logic of SEM is to test whether one’s theory (here three items loading on each of the four constructs) as defined in a measurement model fits the data well. If there is no significant difference between data and model then one’s theory receives support. We evaluated model fit by the Comparative fit index (CFI), values over .95 indicating good model fit (Bentler, 1990), and the Root mean square error of approximation (RMSEA) values lower than .05 indicating good model fit (Brown and Cudeck, 1993). Even though the $\chi^2$ and $\chi^2/df$ are susceptible to sample size and model complexity these are reported. Additionally we report the Akaike information criterion (AIC) (Brown and Cudeck, 1989) measure, which is not affected by the particularities of the default AMOS null models when estimating means and intercepts (Arbuckle and Wothke, 1999). Separate models fitted the data well within each country. We then proceeded to testing a four-country model according to the following specifications.

We wanted to investigate whether our latent constructs measured the same thing across the four countries, which is the cornerstone of cross-cultural research, or when comparing measurements across subgroups (Little, 1997). If the researcher can demonstrate measurement invariance across the subgroups, the comparison of means or regression coefficients across the subgroups becomes meaningful. The strictest test of measurement invariance is to constrain both factor loadings (regression path from latent construct to manifest item) and intercepts (mean level of the manifest indicator). A less strict test would be to constrain the factor loadings (but not the intercepts), which would still be indicative of structural validity across contexts. If the constrained model holds, we can thereafter proceed to include educational level (with controls for socioeconomic status and age) as predictor of the four latent constructs.

We proceeded by first testing a freely estimated model (model 1, Table 11) including four correlated latent constructs, each with three manifest items. All factor loadings were allowed to vary across the four groups. The model fitted data well (RMSEA = .016; CFI = .983). Next, we constrained the factor loadings across the four groups in model 2, which fitted the data less well than model 1 (the freely estimated one), but still had a good model fit (RMSEA = .021; CFI = .960).

In the next series of models we included the latent means to be estimated. In model 3 we constrained the intercepts while allowing the means to vary, in model 4, both the intercepts and factor loadings while the means varied, and in model 5 intercepts, factor loadings, and latent means were constrained. The equal intercept model held (RMSEA=.028; CFI=.941) but the model with equal intercepts and factor loadings did not (RMSEA=.038; CFI=.886). Model 5 in which the latent means were constrained indicated that there were cultural differences with regard to the four outcomes, however, given the poor fit of model 4 we did not pursue testing these differences. In sum the first set of models (model 1-5) demonstrated that it is possible to constrain the factor loadings, which is indicative of structural validity across the four countries. However, the misfit of models 4 and 5 indicated that it is not possible to estimate latent mean differences due to incompatible intercept struc-
ture. Nevertheless, we deemed equal factor structures as a plausible way forward for testing the effect of educational level on the four outcomes, with controls for socioeconomic background and age, across the four countries.

In order to investigate the main research question of this study, that is how educational level affects social cohesion across four countries, we included regression paths from educational qualifications, socioeconomic status and age upon each of the four latent constructs, thus creating a model with three latent predictor variables and four latent outcomes.

Next, model 6 included three latent predictors and four latent outcomes with freely estimated factor loadings for the outcomes (the latent predictors only included one manifest indicator each, which were set to 1.00). In model 7 the factor loadings of the four latent outcomes were constrained across the countries while the regression paths were allowed to vary. As we can see in Table 11, model 7 fitted less well than model 6, but still at an acceptable level, whereby we in the following models constrained the factor loadings. We tested whether the effect of education was the same in all four countries by comparing the model in which the regression paths in the four countries were constrained to be equal as compared against a model in which these were freely estimated (model 7), in nested model comparisons, as a form of post hoc test. We then observed the difference between the two nested models according to the difference of $\chi^2$ between the two models ($\Delta \chi^2$). In order to improve fit between the two nested models, some parameters were relaxed until the $\Delta \chi^2$ became non-significant. This means that there are significant differences in the regression paths between the countries. These regression coefficients are presented in Table 12.

Table 11: Descriptions of, and goodness of fit indices for models 1 to 5

<table>
<thead>
<tr>
<th>Model</th>
<th>Verbal description</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>RMSEA</th>
<th>AIC</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>free factor loadings</td>
<td>472.98</td>
<td>192</td>
<td>2.46</td>
<td>0.016</td>
<td>712.98</td>
<td>0.983</td>
</tr>
<tr>
<td>2</td>
<td>constrained factor loadings</td>
<td>872.21</td>
<td>216</td>
<td>4.04</td>
<td>0.023</td>
<td>1064.21</td>
<td>0.960</td>
</tr>
<tr>
<td>3</td>
<td>equal intercepts</td>
<td>1196.64</td>
<td>216</td>
<td>5.54</td>
<td>0.028</td>
<td>1484.64</td>
<td>0.941(a)</td>
</tr>
<tr>
<td>4</td>
<td>equal intercepts and factor loadings</td>
<td>2137.04</td>
<td>240</td>
<td>8.90</td>
<td>0.038</td>
<td>2377.04</td>
<td>0.886(a)</td>
</tr>
<tr>
<td>5</td>
<td>equal intercepts, factor loadings and latent means</td>
<td>5129.48</td>
<td>252</td>
<td>20.36</td>
<td>0.057</td>
<td>5345.48</td>
<td>0.706(a)</td>
</tr>
</tbody>
</table>

(a) In models in which means and intercepts were estimated, the CFI fit index was calculated using a self-defined null-model

Table 12: Descriptions of, and goodness of fit indices for models 6 to 11

<table>
<thead>
<tr>
<th>Model</th>
<th>Verbal description</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>RMSEA</th>
<th>AIC</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>free factor loadings and free regression paths</td>
<td>1579.04</td>
<td>324</td>
<td>4.87</td>
<td>0.025</td>
<td>1891.04</td>
<td>0.939</td>
</tr>
<tr>
<td>7</td>
<td>constrained factor loading and free regression paths</td>
<td>1992.85</td>
<td>348</td>
<td>5.73</td>
<td>0.028</td>
<td>2256.85</td>
<td>0.920</td>
</tr>
<tr>
<td>8</td>
<td>constrained regression EDUC -&gt; POL (not Sweden)</td>
<td>1998.77</td>
<td>350</td>
<td>5.71</td>
<td>0.028</td>
<td>2258.77</td>
<td>0.920</td>
</tr>
<tr>
<td>9</td>
<td>constrained regression EDUC -&gt; INST (not Sweden)</td>
<td>1996.62</td>
<td>350</td>
<td>5.71</td>
<td>0.028</td>
<td>2256.62</td>
<td>0.920</td>
</tr>
<tr>
<td>10</td>
<td>constrained regression EDUC -&gt; DEM (not Sweden)</td>
<td>1997.50</td>
<td>350</td>
<td>5.71</td>
<td>0.028</td>
<td>2257.50</td>
<td>0.920</td>
</tr>
<tr>
<td>11</td>
<td>constrained regression EDUC -&gt; RACE (not Poland)</td>
<td>1997.21</td>
<td>350</td>
<td>5.71</td>
<td>0.028</td>
<td>2257.21</td>
<td>0.920</td>
</tr>
</tbody>
</table>
In model 8 (Table 12) we first constrained the effect of education on political action across the four countries. When we set the regression path in the Swedish group free we found that the effect was lower (the non standardised coefficient was $\beta_{\text{unstand}}=.09; p<.001$) and standardised coefficient was $\beta_{\text{stand}}=.24; p<.001$), than in the other three countries ($\beta_{\text{unstand}}=.16; p<.001; \beta_{\text{stand}}=.41$) which were not different from each other.

In model 9 we tested, in the same manner, whether there were differences in effects of education on trust in institutions. The nested model comparison showed that the effect of education was stronger in Sweden ($0.07/0.16$) than in the other three countries ($0.00/0.00$), which were not different from each other. The regression effects were not significant in Poland, Spain or Western Germany.

In model 9, the regression path from educational level to trust in democracy in Sweden ($0.22/0.36$), had a stronger effect than in the other three countries ($0.13/0.19-0.25$), which were not different from each other.

Finally in model 10, the effect of educational level on race tolerance was stronger in Poland ($0.06/0.22$), than in the other three countries, in which the effects were not different from each other ($0.01/0.08-0.15$).

In our analysis we compared a number of models in which different parameters were constrained (Table 11 and 12). Importantly, the models in which intercepts and factor loadings were constrained across countries did not reach an appropriate model fit. This means that there are cultural differences in which people perceive, interpret and give weight to the different items that constitute the four social cohesion measures. We were not able to compare the properties of the construct in the strictest sense. Previous studies have acknowledged the difficulty of attaining measurement invariant constructs of social capital (Lillbacka, 2002). However, in a less constrained model the factor loadings were found to be equal across countries, demonstrating that the structural validity of the constructs are compatible (i.e., the items measure that certain latent construct, and not another construct).


Clarke, L. The changing structure and significance of apprenticeship with special reference to


ETGACE. Becoming active citizens: Europeans reflecting on their practice. ETGACE – Education and training for governance and active citizenship in Europe, 2002 (working paper).


Freeman, R. Why do so many young American men commit crimes and what might we do about it?


 Hepburn, M. Multiculturalism and social cohesion in a democratic society: is the United States experience a model or example? Prospects.


Lillbacka, R. *On the nature of social capital: some tentative inquiries aiming at an individual-level measurement strategy*. Pro Facultate. Faculty of Social and Caring Sciences at Åbo Akademi University, 2002, No 6 (In press).


Prakash, S.; Selle, P. Investigating social capital. Comparative perspectives on participation, civil


Van Limbergen, K.; Colaers, C.; Walgrave, L. *Research on the societal and psycho-sociolog-