Specificity and Universality in Occupation-based Social Classifications

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Abstract

The Cambridge Social Interaction and Stratification Scales (CAMSIS) occupation-based social classifications differ from most alternatives in the field on the basis of their specific character. They are derived separately for every country, time period and gender to which they are applied. Scores for occupational unit groups are calculated on the basis of empirical patterns of social interaction between the holders of different occupational units. As such, CAMSIS measures indicate the relative position of social stratification advantage or disadvantage typically associated with a particular occupation within the given society.

Thus, CAMSIS scales allow, first, that equivalent occupations may well be assigned different relative positions in different countries, time periods or gender groups. They are also amenable to the fact that occupational categories may differ in their coverage or definition (i.e., who precisely gets coded to them) between different structures. This contrasts with most other occupation-based social classifications, which are 'universalist', in that all occupations are intended to have exactly the same relative locations regardless of context. Moreover, for universalist occupation-based schemes, variations in the membership of occupational groups between societies (particularly between countries) are often problematic, seldom explicitly documented, and frequently the source of inconsistencies and uncertainties in subsequent analyses.

This paper reviews some of the strengths and weaknesses of the CAMSIS approach to specificity in occupation-based social classifications. The CAMSIS strategy can be considered as both theoretically and empirically more appealing. It can be evaluated favourably in terms of 'criterion' and 'construct' validity, exhibiting strong associations with other related individual level measures. However the CAMSIS approach encounters some pragmatic problems in terms of its practical operationalisations. It also raises questions on the theoretical limits of specificity, namely the issue of how fine a detail of specific derivation we should pursue. We present contemporary evidence on these issues from a number of national contexts (using in particular the ESS and LIS databases), and argue resolutions to some of the apparent shortcomings.

Introduction

This paper has two aims. The first is to review the attributes of alternative occupationally based social classifications, in terms of their ability to offer comparative summaries of social stratification inequalities across three social contexts (nation states; time periods; and gender). The properties of a selection of leading occupational schemes are characterised in three broad themes – the practical, theoretical, and empirical.

Whilst a tremendous volume of publications has debated the merits of alternative occupationally based social classifications[1], there are a number of reasons why a contemporary review of comparative occupational schemes remains pertinent. Chief among them are the changing parameters of modern social survey research. New datasets are increasingly available from wider ranges of countries and time periods, often incorporating countries with diverse economic situations and occupational structures. There has been a growing diversity in the user-community of social survey resources, with occupationally based classifications applied to new substantive fields or particular population subgroups. Recent trends towards the design harmonisation of survey-based resources (see Harkness et al 2003) also imply changes in the standard and type of occupational data collected. Recent growth in concerns over disclosure risks from survey data may be expected to reduce the level of occupational detail available on surveys, with implications for the derivation of social classifications. Lastly, governmental and private organisations remorselessly update national occupational data collection systems, necessitating adjustments to occupationally based social classification systems.

The second aim of this paper is to focus upon an apparent gap in an otherwise exhaustive methodological literature on occupationally based social classifications as social research tools. This concerns the contrast between what may be characterised as 'specific', rather than 'universal', occupationally based schemes. Particularly relevant to efforts in comparative social research, this contrast refers to whether occupations are assigned locations in a social stratification scheme in a manner that is particular to the social context being studied (ie, 'specific'), or whether a strategy is used whereby a certain occupation will always have the same location in the social classification system ('universal'). Both strategies are commonly employed, yet their implications have seldom been explicitly discussed. This paper argues that, whilst both strategies have benefits and shortcomings, specific occupationally based social classification schemes are preferable in many circumstances.

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[1] For recent reviews of debates, see Hauser and Warren (1997); Crompton (1998); Rose and Pevalin (2003); and Breen (2004). Armstrong (1972) reminds us that the tradition of debating occupationally based social classifications can be traced at least as far back as Booth's 19th century research. van Leeuwen et al (2002) illustrate how the issues may be extended to historical data on occupational positions.

This text presents an evaluation of univeralist and specific occupationally based social classifications in terms of how well those classifications represent 'social stratification' positions. Occupationally based measures are regarded as variable indicators, derived from occupational records collected in micro-social survey data, of the social stratification circumstances of an individual or survey record. The language of social stratification helps to distinguish measures of 'stratification' from debates concerning concepts of 'class' and/or 'social status' (cf Stewart et al 1980; Bottero 2005). The generic term of occupational 'social stratification' encompasses any measure which indicates a structure of inequalities influencing experiences in the society (some measures of stratification position make no claims to representing either class or status). Indeed, a weakness of some previous reviews of occupationally based schemes has been a commitment to a particular meaning of class or status that is not universally shared (e.g. Hauser and Warren 1997; Roberts 2001).

Additionally, the language of 'stratification' has the advantage of bypassing what are often emotive and confused uses of 'class' and 'status' in the academic literature and beyond. Both terms have extended popular currency which, though an appealing feature for the general endeavour of social research, can equally serve to conflict with and confuse their academic manifestations. In academia, the term class brings with it two implications which do not necessarily benefit the study of stratification differences. It implies a categorically structured stratification system and the analytical and interpretive complications which that can bring (cf Prandy and Blackburn 1997). It may also imply the particular claim that the boundaries between classes are especially significant. Additionally, it implies some sort of theoretically based distinction between stratification groups which is not simply about more and less advantage – for instance the dominant sociological scheme of Erikson et al (1979) is defined strictly according to a classification of employment relations. A problematic feature of the term status is its apparently inextricable link to theories of normative functionalism which have been opposed in many recent sociological accounts.

Moreover, Prandy (2002) has argued that a difficulty with concepts of both class and status is that their single most important elements concern hierarchical gradations of social stratification inequalities, and that academic attempts to conceptualise class and status schemes have consistently served to attenuate their measurement of stratification. It is further argued that this very hierarchical structure can be clearly and consistently identified (see the 'CAMSIS' measures discussed below, and also Rytina 2000). And, far from being an atheoretical empirical structure, such hierarchically graded stratification inequality can be firmly located within theories of social reproduction and the embedding of stratification inequalties through social relations (eg Bourdieu 1984; Rytina 2000; Prandy 2002, Bottero 2005). Although there may be circumstances where the theoretical commitments of other particular class or status approaches will appeal to researchers, it can be argued that the greater majority of users of occupationally based social classification schemes are most interested in whichever scheme best captures the contours of social advantage and disadvantage as they are reproduced and socially embedded – typified, for instance, by a series of evaluations of occupational schemes within health research (eg Chandola et al 2003).

Specificity and Universality

Decisions on universality or specificity are considered here with regard to three social contexts, those of gender, country and time period. Thus, advocates of specific occupationally based social classifications would argue that the same occupation (say, 'nurse') should not necessarily be assigned to the same social classification location for both men and women, nor for different countries, and nor for different time periods. These three contexts are especially pertinent to cross-national survey researchers, who are often concerned with comparisons between national level samples, from different time points, and with an awareness of gender inequalities. Needless to say, there are several further social contexts which might equally be treated as grounds for specific classification decisions - for instance, differences by ethnic group, or regional economy.

The specific versus universalist contrast can also be understood as a difference between 'relative' and 'absolute' comparability. Universalist schemes have absolute comparability between contexts because the occupational position is anticipated to possess the same attributes for the unit of analysis regardless of social contextual circumstances. Specific schemes, as discussed here, do also have comparability between contexts, but in the sense that they represent relative locations of advantage or disadvantage within the given scheme (in a similar manner to how relative income indiciators are used in cross-national research). The criteria of relative comparability excludes a number of 'stand alone' occupational classifications from the remit of specific schemes (for instance, a class categorisation for country X which has no ostensible relation to a scheme from any other country). Although apparently inhibiting, this strategy reflects the focus of this text on forms of comparative survey research.

Much of the existing literature in social stratification research has tended to favour universalist occupationally based social classification schemes, although this position is often implicit rather than explicit. For instance, several authors have advocated particular social classification schemes with reference to properties of occupational locations which are either theoretically or empirically fixed. Thus, a number of authors have derived theoretical accounts of occupational structures of social class in which employment situations necessarily define class locations – see the influential schemes associated with Goldthorpe (referred to here as the EGP scheme - see Erikson et al 1979; Goldthorpe et al 1980; Erikson and Goldthorpe 1993; Breen 2004); and Wright (1985). Others have derived occupational schemes based upon empirical attempts to measure average properties of occupations in terms which are taken to be stable across contexts - for instance, Elias's (1996) classification of job skill levels ('SKILL4' below), and Treiman and Ganzeboom's measures of average occupational prestige ('SIOPS', see Treiman 1977), and average levels of income and education ('ISEI', see Ganzeboom *et al.* 1992/1996). One impact of the substantial influence of the aforementioned authors on social research practice has been that that

the large majority of sociological research outputs have utilised one of these universalist occupational classification schemes.

The latter authors have also made one of the few prominent explicit claims for universality in occupationally based social classifications. Trieman (1977) empirically justified, and popularised, the position that occupational patterns of inequality (in terms of prestige) were highly stable across a number of different countries. More recently, Ganzeboom *et al.'s* papers (1992; 1996) have extended that interpretation to the claim that for most purposes, empirical patterns of occupational differences are fixed in time and place. Breen and Rottman (1998) used a similar perspective to argue that the main contours of class analysis, in terms of the EGP classification, are consistent between countries.

Writing advocating specificity in occupationally based social classifications can also be found in a mixture of implicit and explicit forms. The most extended explicit claims are associated with approaches to the measurement of social stratification as it is exhibited through social interaction behaviours (eg Laumann and Guttman 1966; Stewart et al 1980; Prandy 1990; Prandy and Lambert 2003; Chan and Goldthorpe 2004). The distribution of 'CAMSIS' (Cambridge Social Interaction and Stratification) scales in particular (see Prandy and Lambert 2005), is associated with the production and dissemination of an array of different occupational classifications, each provided separately for each country, time period and gender. In this approach, scores for occupational unit groups are calculated on the basis of empirical patterns of social interaction between the holders of different occupational units. As such, CAMSIS measures indicate the relative position of social stratification advantage or disadvantage typically associated with a particular occupation within the given context. As indicators of relative locations, CAMSIS scores have an inherent specificity.

Other explicit claims for specificity concern the particular influence of a certain social context in mediating the value of occupational classifications. With regard to gender, Martin and Roberts (1984) argued that in Britain, distinctive occupational class schemes should be applied to the analysis of male and female occupations in order to reflect strong patterns of gender segregation both between and within occupations (Warren et al1998 similarly note the difficulties of summarising male and female inequalities with equivalent occupational measures). In international contexts, Sorensen (1992) argued that different scalings of class categories are appropriate across the analysis of 23 different nations; the ESEC project (Rose et al 2005) represents one of a number of attempts to harmonise national occupational schemes whilst accommodating particular national occupational structures. From an historical perspective, Blishen (1958) advocated the regular updating of occupational indexes based upon average income and educational levels; and Miles (1999) argued the need for modifications to the contemporary EGP class scheme when applied to the nineteenth century.

Several perspectives may also be taken as providing implicit support for specificity in occupational classifications. Firstly, a number of theories associated with major economic transformations in the contemporary period imply the changing relative significance of occupational positions over time - for instance theories associated with post-industrialism (eg Bell 1973); theories of substantial changes in relative occupational gender inequalities (eg Hakim 2000); and theories on changing conflict relationships between national economies (Wallerstein 1976, but cf Goldthrope 2002). Additionally, the writings of Bourdieu (eg 1984) has been viewed as a statement that the precise inequalities of stratification experiences are contingent in their association with occupations (cf Bottero 2005; Savage et al 2005)[2].

Lastly, many empirical projects studying occupational stratification, whilst overtly employing universalist approaches, in practice adopt specific classificatory strategies to a limited number of 'problem' contexts – see for instance treatments of Germany and the Netherlands in Breen (2004).

Of course, specific occupational schemes do also upper bounds to their specificity. Whilst some of their theorisations might appear to point to unlimited relativistic comparisons, the summarising purposes behind occupational classifications mean that there are natural limits in the extend of specificity which may usefully be employed. This aspect of the choice between specific and universal schemes is also discussed in the sections below.

Practical evaluations

The pragmatic issues involved in operationalising, analysing and communicating findings from occupationally based social classifications are often neglected in evaluations between different social stratification measures. They do however represent a hugely important aspect of the social research process, and it can be argued that many choices between occupationally based measures are made overwhelmingly upon practical grounds.

The main pragmatic issue concerns the ability to obtain the relevant measures from survey data resources. Tables 1 summarise the presence of occupational data on four cross-nationally harmonised survey data collections, and the degree to which that data can be transformed into three leading universalist occupationally based social classification schemes (EGP, SKILL4, and ISEI), and one specific occupational scheme (CAMSIS). The table illustrates that the ability to operationalise both universal and specific occupationally based social classifications can be severely

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[2] Also to some degree consonant with an approach of specificity is post-modern theorising on occupational stratification – Pakulski and Waters (1996) for instance highlight how occupational experiences are mediated by gender and national contexts, although their position also implies that many more social contexts will also influence occupational differences.

constrained by inconsistencies in the type of occupational data available. Although it concentrates on the impact of national context differences on data collection problems, the same issues apply to temporal contexts (the UK and US, for instance, have updated their occupational data collection systems every decade since the turn of the twentieth century).

A clear problem with operationalising universalist schemes is that such inconsistencies in data collection are not well suited to the external claims about occupational circumstances that universalist scheme make. By contrast, for universalist occupation-based schemes, variations in the membership of occupational groups between societies (particularly between countries) are problematic, often under-documented, and frequently the source of inconsistencies and uncertainties in subsequent analyses. Indeed the most common reaction to data collection differences between countries could be described as a strategy of avoidance - namely, the attempt to univeralise source occupational measurement through the collection of 'ISCO' occupational data (ILO 1990). Those universalist schemes listed in Table 1 are most often operationalised through the use of ISCO data – in particular, the ISEI and SKILL4 measures are more accessible because both may be obtained from a linear translation of ISCO-88 or ISCO-68 unit data (see translation instructions in Ganzeboom 2005 and Elias 1996). However this step cannot always be achieved. ISCO-88 occupational unit group classifications are not always provided by relevant countries (or even relevant subsections of the data, as for instance the lack on detail on ESS data on parental occupations). ISCO-88 classifications are also not easily available for earlier time periods (cf van Leeuwen et al 2004; Ruggles et al 2003). Even when ISCO-88 is available for a country, there are often grounds for doubting the appropriateness of the occupational data which was used to generate the ISCO measure (eg Hoffman 2000). Additionally, several studies do not release ISCO-88 data to the necessary level of detail (4-digit) best suited to the ISEI scheme[3].

Table 1 also shows that the universalist EGP scheme has more problems in its operationalisation. These occur because it requires both detailed occupational unit data, and employment status data, in order to identify its relevant categories. In general, only the ESS collects an adequate degree of both employment status and occupational unit data to enable a full EGP classification. The more common approach to operationalising EGP categories is to employ a standardised translation provided by Ganzeboom (2005), which relies on having both ISCO-88 or ISCO-68 detailed data (problematic as above), and standardised data on employment status and size of establishment (cf Elias 2000). Alternatively, the main protagonists of the EGP scheme favour the use of local experts to assign occupations to its categories according to contextual knowledge (eg Erikson and Goldthorpe 1993). This is a position which has implications, discussed below, for the universalist / specific disctinction. It has pragmatic difficulties because the relevant local experts may not always have carried out the classification for a time period or nation of interest; it is also problematic because of potential inconsistencies between different choices of

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[3] The SKILL4 scheme fares better in this regard, needing only one digit of ISCO-88 data. However a different feature of its scheme is unusually – it formally excludes major groups 0 (Armed forces) and 1 (Legislators, Senior Official and Managers). In practice, occupations in these groups are often included in SKILL4 categories 1 and 4 respectively.

classification, illustrated for instance by the inconsistencies shown in Table 2 for the UK. This strategy is also favoured by the E-SEC project in its specification of a cross-national class scheme which closely resembles EGP units (Rose et al 2005).

In principle, the operationalisation of a specific occupational classification is far less problematic than a universalist one, since it can be done on a context-by-context basis. Indeed, an attractive feature is that a specific measure may make use of whichever source occupational data is available – whether or not ISCO-88 or an alternative occupational unit group classification is available, and whether or not employment status data is available. As noted above, survey data is often inconsistent in what data is collected over time and place. The fact that specific schemes offer a way to deal with these inconsistencies is highly attractive. However, the practical experience of utilising specific occupational schemes are more mixed. Firstly, the techniques of computer file processing required for their implementation (eg Prandy and Lambert 2005) are extended, and increase proportionately to the level of specificity that is available. Secondly, the actual extent of specificity is often not as great as may be desired: the comparable specific CAMSIS scales are not available for all countries; their cross-temporal coverage between countries is inconsistent; and the occupational unit groups to which they can be linked is inconsistent. It can thus be argued that such various complexities make specific schemes more difficult to operationalise in a number of circumstances.

Of course, many of the practical difficulties of data operationalisation would not necessarily apply in an ideal world of social research capabilities. A number of attempts to improve the accessibility of social classification measures have been made, particularly concentrated upon internet resources for distributing occupational data (see Ganzeboom 2005; van der Werhorst 2005; Prandy and Lambert 2005; ONS 2005; IDEAS 2005; Rose et al 2005). Additionally, the 'GEODE' research project (Lambert et al 2005) is an ongoing undertaking to design an internet portal which will allow the automated matching of all available occupational classifications to source occupational data. If successful, this would eliminate many of the problems of data operationalisation referred to above, and would also serve to widen the pool of specific occupationally based measures[4].

Issues in the communication of research also impact on the practical evaluation of occupational schemes. Universalist schemes have a strong advantage in this respect, as it can be much easier to refer to the absolute positions of occupations over time, space and gender, than to relative locations. Moreover, categorical universalist schemes such as class schemes benefit from the further advantage that it is cognitively

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[4] The GEODE project is an attempt to use 'Grid' computing technologies to provide for the secure transfer of microdata with complex occupational classification schemes. The intended end resource involves users submitting micro-survey data with whatever source occupational information is available to them, then having it returned with all available occupational classifications appended to it. The project will also attempt to provide a sustained facility to act as an international 'depository' of occupational information resources, such as social classification schemes and other aggregate statistical information on occupational units.

much less challenging to report comparative results in terms of differences between a low number of categories of occupational locations. (Although the EGP scheme also suffers from the widespread misinterpretation of its categorical nature – the scheme is intended to be nominal in character but to incorporate some ordinal inequalities; researchers have frequently misinterpreted this property by attributing greater or less ordinality than is appropriate). In addition, relevant specific schemes have not as yet achieved as high a level of public awareness as several leading universalist schemes, with negative implications for the communication of findings based upon them.

Furthermore, when concern is explicitly directed to the descriptive analysis of clearly defined occupational locations, a universalist scheme is an essential tool for social research (just as pre-harmonisation equivalence is considered essential to certain forms of descriptive analysis in other spheres of comparative research). Equally, there are some practical benefits to the relative comparability that specific occupational schemes can offer. By providing what to some degree is a control for the external social context, they can be better suited to explanatory accounts of the relative differences between units within the social context of interest.

Practical limits also have a clear impact upon the degree of specificity which may be operationalised. The research efforts involved in generating, distributing and communicating new occupational schemes are substantial. For practical purposes therefore, the lower the level of specificity the better – a property which may be set against empirical and theoretical motivations for schemes specific to alternative contexts.

Lastly, it can also be noted that gender contexts can play an important role in the pragmatic attributes of alternative schemes. The gender segregation of occupations is a persistent and extreme aspect of occupational structures (eg Hakim 1998). One implication is that some occupational classifications may overly cluster female stratification locations because they make little difference between a small number of occupations which are highly significant to female but not male labour markets. Empirically, the EGP scheme is particularly problematic in this regard, as the female distribution of occupations is highly skewed and differentiated from the male distribution. Specific occupational schemes which recognise the gender context can thus have considerable practical advantages – the female versions of CAMSIS measures, for instance, differentiate specific occupations which have high levels of female participation.

Theoretical evaluations

In many respects, the apparent theoretical attractions of a specific approach to occupational classifications may seem obvious. A mass of evidence can be collated to support the view that the stratification experiences of occupational situations differ between time periods, countries, and gender groups. Specific approaches to classification offer the opportunity to cater for any such differences – whether they

clearly do, or simply may, exist. By contrast, universalist approaches intransigently deny the possibility of accounting for change.

There are however more ambiguous theoretical issues in the evaluation of specific and univeralist schemes. The first concerns commitment to an explicitly theorised stratification structure. As mentioned above, several stratification schemes – usually class schemes – can be presented as inherently universalist, since they refer to external properties of occupational positions. Additionally, a social relational approach to stratification such as that of the CAMSIS measures (Bottero 2005) can be presented as inherently specific in its derivations. In such terms, the choice of stratification measure may be seen as a direct outcome of an external preference in social theory (though sociologists' difficulties on agreeing on any one theory might seem inauspicious for an attempt to agree on a preferable social classification). More particularly, as preference for a specific scheme can be seen to resonate with social theories concerned with understanding relative differences in inequality experiences, whilst a preference for a universalist scheme may suit those theories interested in more absolute comparisons of locations, it can be argued that the analysis of specific schemes is correspondingly better suited to explanations with regard to any theoretical approach in which relative inequalities might be considered to be variable between contexts.

As discussed above, the CAMSIS schemes emerge in large part from empirical analyses of social relations, but it is misleading to assume they represent an atheoretical structure of difference. By contrast, their images of hierarchically graded stratification inequalities can be firmly located within theories of social reproduction and the embedding of stratification inequalities through social relations (eg Bourdieu 1984; Rytina 2000; Prandy 2003, Bottero 2005). Moreover this integration of a theoretical approach with empirical derivations provides in itself a theoretically satisfying outcome: the empirical evidence for the dominance of graded hierarchy is so consistent that only a theory of hierarchical stratification reproduction might seem adequate.

Of course, the CAMSIS scheme is not the only occupationally based social classification with empirical influences – for instance, the EGP classification has been developed and reinforced by the supplementary analysis of social mobility patterns. However, it is the empirical influence which is the main driver of specificity in occupational schemes, since specificity allows for different empirically derived structures in different social contexts. The coincidence of graded universal stratification scales with other structures of inequality in modern social lives implies the pervasiveness of stratification structures across different dimensions of social life, and there are benefits in allowing for contextual differences between such structures within any account of these inequalities.

Yet whilst some forms of specificity may be widely rehearsed (such as differences between countries), others are equally less obvious (for instance, should a different system be derived every single different year?). The level of specificity that is to be employed thus itself becomes a significant theoretical issue. One answer can be drawn

by the importance attached to different contextual elements in theoretical accounts. However as a hypothetic question, the level of specificity can be recommended simply on the basis of other relevant outputs. In practice, the typical remits of cross-national survey researchers make an appropriate reference point – major units of analysis such as countries, time periods, and gender groups may usefully be treated as separable contexts, whereas finer levels of relativism can be ruled out *a priori* on such circumstances.

The contrast between universalist and specific occupational classifications also coincides with an opposition highlighted by Bottero (2005) between structural and relational approaches to social stratification. The former involve defining stratification inequalities with reference to some externally discernible structure, and are characteristic of universalist classification schemes. The latter involve allowing our image of stratification differences to be defined entirely by evidence on patterns of associations between social actors, an approach typified by CAMSIS occupational measures and their specific character. Bottero (2005) argues that relational approaches have many theoretical advantages as methods of understanding stratification differences.

One further significant issue which can be presented as either theoretical or empirical. A danger in the derivation of specific schemes is that the data resources which contribute to those contextual derivations are subject to measurement error. As discussed below, this leads to several circumstances where it is unclear whether a difference in occupational position between two contexts is of genuine substantive significance or just a measurement weakness. At a theoretical level, this point implies a choice between an approach to social science in which structure is defined according to imperfect empirical analysis, or one which is over-ruled by strong theoretical arguments. In their practical operationalisations, specific schemes have tended to be influenced primarily by the former, but also mediated by the latter, with most of their advocates willing to apply some degree of prior structure within the development of the stratification analysis (see Prandy and Lambert 2005).

Empirical evalutions

An empirical evaluation of the merits of specificity and universality in occupationally based social classification can concentrate on two questions. Firstly, do patterns of association between occupational measures and other factors differ appreciably according to the social contexts considered (time, nation and gender). Secondly, are the features of specific schemes that make them specific genuinely robust and empirically significant to the terms of analysis considered. Tables 3 to 6 and figures 1 to 4 present selected evidence on these issues.

The short answer to the first question is that differences between occupationally based social classifications are not usually substantial, and do not usually impact upon substantive conclusions to any great degree. There are, however, particular

circumstances where they do matter, and, crucially for the terms of this debate, some of those more important are the three contexts of gender, nation state, and time period. Tables 3, 4 and 5 for instance indicate that in most cases, associations between stratification schemes and other indicator variables of aspects of social lives, vary only slightly between different occupationally based classifications. However, those variations are mediated slightly between different countries (Tables 3 and 4 and 5). Moreover, figures 3 and 4 indicate that the substantive impacts of difference between occupational schemes are themselves contingent on national contexts (as the homogentity of categorical occupational classification varies between different nations). In contemporary cross-national survey research, gender differences and differences between Western and emerging economies are often of interest, and it is these differences in context which occupational classification schemes most consistently impact upon.

A short answer to the second question is also that in most circumstances, the differences between particular occupational scores for different specific schemes are not substantial. For instance, Table 6 and Figures 1 and 2 indicate associations between specific occupational scores and other classifications, and indicate on the whole close relations, both between specific schemes and universalist ones (Table 6), and between the specific scheme scores given to the same occupations in different contexts (Figures 1 and 2). The theoretical expectations of specific approaches to occupational measurement would be that a few occupations may be quite substantially different between contexts, and Figures 1 and 2 indicate this is the case. However they do also suggest a substantial amount of slight variation between specific occupational scores which is less satisfactory – since the specific scores are derived through a process of sampling occupational positions, the core spread of scores in each context of Figures 1 and 2 may seem a more likely impact of measurement error than substance.

Occupational gradings from social interaction studies need not necessarily demonstrate a need for specificity. At least two applications have suggested that they do not. Klatsky and Hodge's (1972) analysis of intergenerational mobility distances suggest that *'..the relative status of occupations has remained stable over time'*, but they use a limited cross-sectional dataset from the US in testing this claim. Chan and Goldthorpe (2004) use the empirical similarity of male and female patterns of occupational friendship endogamy to argue that occupational structures are equivalent between genders. This stands in contrast to the equivalent analyses of Prandy and Lambert (2003), whose use of a larger sample allowed them to differentiate far more occupational positions. Those authors found gender differences in occupational locations which were particularly marked for those occupations with high levels of gender segregation, which the limited sample size of Chan and Goldthorpe had precluded from analysis.

However contemporary analyses of the form described here tend to have the particular advantage of larger and more consistent comparative datasets. Given at least some evidence of slight specific differences in empirical properties of occupations, an

appropriate empirical conclusion is that it seems reasonable to continue pursuing the issue of occupational specficity.

Conclusions

This review concentrated on three domains to the comparison of occupationally based social classification in comparative social research: their practical, theoretical and empirical properties.

There are moderate pragmatic difficulties in working with any occupationally based social classification, although current and future attempts to improve research tools may well lessen these difficulties. In principle, specific classification schemes have several advantages in terms of data operationalisation. However, there are notable gaps between principle and practice, with considerable difficulties in collating data on specific occupational schemes, allied to the easier communication of universalist ideas, suggested that universalist occupational classifications win the first evaluation.

There are considerable theoretical merits to allowing for specificity in an occupational analysis. However, the theoretical evaluation is somewhat muddied by the alignment of different specific and universalist schemes with particular approaches to social theory - the primary specific schemes considered here imply a relational approach to stratification.

Lastly there are mixed empirical benefits to allowing for specificity. There are certainly some circumstances where seemingly important differences in the properties of specific and universalist schemes are charted, and they apply particularly to gender differences and certain national contexts (Western versus emerging economies). There is also however strong evidence of broad consistency between occupationally based stratification measures, which is likely to be satisfactory for most non-specialist analyses.

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Tables and Figures referred to in the text

Table 1 : Operationalising schemes

Table 1: Occupationally based social classifications - Data availability by country and study

C	**CAMSIS**	**E** **EGP 7-category version**	{blank} **Not covered by study**
I	**ISEI**	**S** **SKILL4**	

Review conducted 2004/5. Lower case letters indicate intermediate quality operationalisation, eg, only 2-digit level ISCO88 category averages rather than 4 digit level detail, or only interim CAMSIS version available for that country (based on small sample derivations)

	ESS	**ISSP**	**LIS**	**CHER**		**ESS**	**ISSP**	**LIS**	**CHER**
Austria	c I E S	c I e S	S	c i S	**Portugal**	c I E S	c I e S		c i S
Belgium	c I E S	c I e S	c i S	c i S	**Russia**			c I E S	c i S
Czech R	c I E S	c I e S	c i S	c i S	**Slovakia**		c I E S	c i S	c i S
Denmark	c I E S	c I e S	c I E S	c i S	**Slovenia**	c I E S	c I e S	c i S	c i S
Germany	C I E S	C I e S	C I E S	c i S	**Spain**	C I E S	C I e S	c i S	c i S
Hungary	C I E S	C I e S	C I E S	c i S	**Sweden**	C I E S	C I e S	C	c i S
Ireland	C I E S	C I e S	c i S	c i S	**Switz**	C I E S	C I e S	C I e S	c i S
Poland	c I E S	c I e S	c i S	c i S	**UK (GB)**	C I E S	C I e S	C i E S	c i S

ESS: all studies from 2002 as available on edition 4.1.
ISSP : all studies for 2000, except Australia, Cyprus, France, Hungary, Latvia, Poland (1999) and Italy (1998).
LIS : uses latest available LIS study, all in range 1994-2003.
CHER: year 2000 or nearest available year for each country

Table 2: Allocation of employed adults to EGP, CASOC v's Ganzeboom (2005) macros, UK 2003 BHPS

Count

	CASOC allocation (specific - uses UK expertise)										
	I	II	IIIa	IIIb	IVa	IVb	IVc	V	VI	VIIa	VIIb
Unallocated	43	46	0	0	11	4	0	21	0	20	0
I Higher Service	1115	833	78	20	17	8	0	55	0	2	0
II Lower Service	132	723	215	17	8	5	0	39	0	6	0
IIIa/b Routine non-mnl.	4	64	834	678	0	19	0	1	0	143	0
IVa Self-Empl + Employees	16	4	0	3	112	105	0	2	0	0	0
IVb Self-Empl no Employees	0	0	3	2	0	206	0	0	12	9	0
V Manual Supervisors	0	47	0	0	0	0	0	197	4	0	0
VI Skilled Manual	0	36	0	0	2	12	0	61	487	103	0
VIIa Semi-Unskilld Manual	1	9	9	44	2	35	0	205	76	1063	1
VIIb Farm Labour	0	0	0	0	0	5	4	0	0	23	30
IVc Selfempl Farm	0	1	0	0	3	16	79	9	0	1	3
Total	1311	1763	1139	764	155	415	83	590	579	1370	34

Table 3: Gradation in CAMSIS and ISEI by educational attainment categories, Luxembourg Employment Study

(National survey samples documented at www.lisproject.org)

	UK 1997		US 1990		Switzerland 1997	
	male	**fem**	**male**	**fem**	**male**	**fem**
Approx N	34,300	30,200	19,500	17,200	5,100	4,000
	Educational Categorisation approximating ISCED97					
	mean CAMSIS for title-only / title-by-status versions (ISEI mean)					
0) Pre-primary	NA	NA	33 / 33 (27)	29 / 30 (29)	NA	Na
1) Primary	44 / 44 (37)	44 / 45 (38)	37 / 37 (30)	32 / 33 (29)	42 / 41 (35)	44 / 45 (38)
2) Low secondary	49 / 49 (43)	53 / 53 (44)	39 / 39 (33)	38 / 39 (37)	44 / 44 (37)	50 / 51 (42)
3) Upper secondary	57 / 56 (50)	55 / 55 (47)	44 / 44 (37)	46 / 47 (44)	58 / 59 (49)	65 / 65 (44)
4) Post secondary non-tertiary	47 / 47 (41)	50 / 50 (42)	NA	NA	46 / 46 (39)	54 / 55 (43)
5) First stage tertiary	63 / 63 (58)	64 / 64 (54)	52 / 52 (45)	53 / 53 (49)	54 / 54 (48)	64 / 64 (50)
6) Second stage tertiary	72 / 72 (68)	75 / 71 (66)	68 / 67 (60)	63 / 63 (58)	72 / 72 (66)	75 / 74 (64)
Eta-squared	0.33 / 0.32 (0.32)	0.34 / 0.32 (0.23)	0.37 / 0.36 (0.36)	0.32 / 0.30 (0.23)	0.40 / 0.40 (0.42)	0.34 / 0.33 (0.25)
	Convenience 3-fold Educational Classification, by age					
	mean CAMSIS title-only: all working population / over 30yrs only					
None, Primary, or low school	45 / 46	47 / 47	37 / 38	31 / 31	43 / 41	44 / 41
Intermediate	53 / 54	56 / 59	43 / 45	44 / 45	45 / 45	51 / 51
College/University	68 / 69	71 / 72	61 / 62	58 / 59	68 / 69	62 / 62
Eta-squared	0.31 / 0.32	0.29 / 0.32	0.27 / 0.27	0.24 / 0.26	0.36 / 0.38	0.19 / 0.21

Unweighted survey data. Min number of cases per category = 47. All Eta-squared estimates significant to > 99% probability criterion.

Table 4 : Magnitude of association between selected stratification indicators and consumption / lifestyle measures

All adults aged 18+ from 2000 or 1999 cross-sectional weighted samples of BHPS and SHP (first row for UK, second for Switzerland).

		CAMSIS	ISEI	Income	EGP7	Skill4	Education
		Individual level / household level / Parental occupation					
		Eta*100			*Cramer's V*100*		
CAR	**Br**	21 / 18 / 13	20 / 21 / 13	20 / 36	21 / 25 / 12	21 / 23 / 13	16
Car in hhld	**Sw**	2 / 1 / -4	4 / 6 / -3	9 / 23	6 / 13 / 6	4 / 8 / 4	10
WASHMC	**Br**	7 / 5 / 4	5 / 6 / 5	8 / 20	8 / 9 / 3	5 / 7 / 5	6
Washing mach.	**Sw**	3 / 5 / 1	4 / 7 / 1	4 / 17	11 / 15 / 8	5 / 8 / 3	2
DISHWS	**Br**	24 / 25 / 19	23 / 26 / 18	22 / 40	25 / 29 / 18	23 / 28 / 17	16
Dishwasher	**Sw**	12 / 13 / 8	13 / 16 / 8	12 / 30	12 / 16 / 8	14 / 17 / 7	11
PC	**Br**	24 / 23 / 18	23 / 26 / 19	24 / 39	24 / 27 / 19	22 / 26 / 17	24
Home computer	**Sw**	23 / 24 / 14	20 / 24 / 15	15 / 34	18 / 23 / 16	22 /25 / 14	23
PCI	**Br**	24 / 25 / 17	24 / 27 / 18	24 / 36	24 / 27 / 18	23 / 27 / 14	24
Internet access	**Sw**	28 / 29 / 19	27 / 29 / 21	20 / 37	24 / 28 / 22	27 / 30 / 18	28
HOM2	**Br**	12 / 13 / 8	11 / 13 / 7	13 / 16	16 / 21 / 11	12 / 16 / 8	7
Second home	**Sw**	6 / 8 / 4	6 / 7 / 3	3 / 14	5 / 6 / 5	6 / 9 / 5	6
GDN	**Br**	1 / 2 / -1	1 / 3 / 0	1 / 8	5 / 7 / 4	2 / 3 / 1	2
Garden	**Sw**	6 / 6 / 2	4 / 6 / 1	2 / 13	7 / 11 / 8	6 / 8 / 2	3
HOL	**Br**	19 / 17 / 10	19 / 18 / 10	17 / 27	21 / 20 / 10	18 / 20 / 10	14
Regular holiday	**Sw**	18 / 18 / 10	18 / 20 / 12	13 / 19	26 / 27 / 16	15 / 18 / 10	14
SPO	**Br**	14 / 13 / 11	15 / 14 / 12	21 / 18	17 / 14 / 13	15 / 14 / 10	13
In sports club	**Sw**	8 / 6 / 2	7 / 7 / 3	8 / 13	9 / 9 / 3	9 / 8 / 3	8
POL	**Br**	9 / 8 / 7	8 / 8 / 7	7 / 5	10 / 9 / 8	9 / 9 / 7	7
In politics party	**Sw**	9 / 9 / 2	10 / 9 / 2	12 / 10	11 / 10 / 3	11 / 10 / 3	9
CRH	**Br**	8 / 7 / 6	7 / 6 / 5	1 / 2	8 / 8 / 6	6 / 7 / 5	6
Charity	**Sw**	8 / 7 / 3	7 / 7 / 2	-1 / 3	7 / 6 / 4	7 / 8 / 3	4
CIN	**Br**	8 / 9 / 10	7 / 10 / 11	6 / 12	7 / 8 / 10	6 / 8 / 9	11
Goes to cinema	**Sw**	15 / 15 / 15	11 / 10 / 18	1 / 11	12 / 12 / 18	10 / 10 / 15	13
THES	**Br**	24 / 24 / 15	23 / 22 / 16	15 / 18	24 / 24 / 15	21 / 22 / 14	22
Goes to theatre	**Sw**	29 / 29 / 17	22 / 23 / 18	11 / 12	23 / 22 / 17	23 / 24 / 16	21
DRNK	**Br**	-2 / -2 / -2	0 / 0 / 0	10 / 11	9 / 6 / 5	3 / 2 / 1	5
Goes drinking	**Sw**	4 / 4 / 3	7 / -5 / 7	10 / 10	8 / 6 / 9	7 / 5 / 7	7
DIY	**Br**	3 / 4 / -1	4 / 4 / -3	4 / 1	10 / 6 / 5	4 / 4 / 3	6
Does DIY	**Sw**	1 / -1 / -4	-3 / -3 / -6	-7 / -4	4 / 5 / 8	4 / 1 / 5	6

* Significance levels of associations not presented. Given the sample sizes of approx 10k, across variables any association value greater than approx 2 would pass a 95% criterion threshold. Negative values indicate stratification advantage associated with lower chance of respective property.

Table 5: Mediation of stratification associations on three selected variables, according to cohabiting-working situations.
Unweighted CHER 1998 panel (or 2000 for Switzerland)

Cohabiting-working situation ↓		HPC Household has a PC		STI Satisfaction with income		INT Gross household income	
		CAMSIS	ISEI	CAMSIS	ISEI	CAMSIS	ISEI
		pearsons correlation with own occupation score, or own / household					
Belgium	**1. BW**	23 / 24	21 / 24	6 / 4	11 / 3	25 / 27	28 / 30
	2. 1WC	23	26	7	9	23	29
	4. SW	18	20	2	4	16	15
Germany	**1. BW**	26 / 25	28 / 29	6 / 4	5 / 5	30 / 29	37 / 35
	2. 1WC	27	28	6	5	37	42
	4. SW	16	16	4	4	13	16
Switz.	**1. BW**	20 / 21	18 / 21	1 / 4	3 / 3	31 / 30	28 / 30
	2. 1WC	22	20	1	3	25	25
	4. SW	12	13	2	3	-1	0
UK	**1. BW**	23 / 27	23 / 27	3 / 1	3 / 3	27 / 30	27 / 31
	2. 1WC	25	27	1	0	23	25
	4. SW	14	14	7	7	15	14
Denmark	**1. BW**	27 / 29	25 / 28	4 / 4	5 / 4	27 / 27	28 / 28
	2. 1WC	21	25	14	12	39	36
	4. SW	20	22	5	5	7	4
France	**1. BW**	-	-	7 / 4	5 / 3	38 / 41	39 / 42
	2. 1WC	-	-	13	14	51	53
	4. SW	-	-	8	6	24	20
Ireland	**1. BW**	24 / 24	30 / 29	8 / 6	9 / 6	12 / 16	16 / 19
	2. 1WC	38	38	6	8	13	13
	4. SW	26	29	1	2	1	0
Portugal	**1. BW**	49 / 50	46 / 47	9 / 8	10 / 8	58 / 60	56 / 58
	2. 1WC	40	37	10	10	41	43
	4. SW	44	43	10	13	36	38

BW: 2+ adults in household, 2+ adults working; 1WC: 2+ adults in household, 1 adult only in FT work; SW: 1 adult only in household, in FT work

Table 6 : Relationships from CAMSIS to ISEI through ISCO88

(Unweighted correlations between distinct occupational units, approx 533 titles)

	Germany 1995	Switz. 1990	UK[‡] 1991	USA[‡] 1990	Turkey[‡] 1990
CAMSIS to ISEI correlations by CAMSIS version					
male, title	0.869	0.778	0.866	0.871	0.817
male, title-by status	0.768	0.713	0.804	0.739	0.773
female, title	0.851	0.718	0.815	0.811	0.838
fem., title-by-status	0.769	0.672	0.744	0.704	0.751
(CAMSIS – ISEI) correlation with CAMSIS version					
male, title	0.262	0.427	0.241	0.091*	-0.015*
male, title-by status	0.256	0.347	0.236	0.222	-0.183
female, title	0.479	0.553	0.460	0.383	0.287
fem., title-by-status	0.463	0.537	0.394	0.407	-0.137
Structure of CAMSIS-ISEI differences:					
mean (CAMSIS – ISEI)[†] by ISCO-88 Major group(m/f), title-only					
1 Legislators, senior officials, managers	-1.8 / -0.1	-2.2 / -4.6	3.3 / 0.3	1.4 / -5.4	1.6 / 3.5
2 Professionals	8.2 / 6.2	8.9 / 9.4	4.2 / 7.7	1.5 / 2.2	3.6 / 3.9
3 Technicians, associate profess.	6.2 / 5.8	6.9 / 8.0	9.6 / 12.6	7.0 / 5.0	8.1 / 11.8
4 Clerks	2.6 / 5.1	-1.0 / 4.3	4.1 / 4.6	3.4 / 1.7	4.0 / 12.3
5 Service workers, shop, market sales	9.7 / 12.4	12.4 / 11.4	10.7 / 11.5	12.0 / 9.5	11.9 / 14.2
6 Skilled agricultural and fishery workers	14.9 / 6.5	19.5 / 18.5	22.1 / 28.0	11.7 / 10.0	14.6 / 12.6
7 Craft, related trades	8.0 / 2.8	5.6 / 2.0	5.3 / 2.9	6.6 / 1.2	11.6 / 14.2
8 Plant & machine operators, assemblers	-1.9 / -5.0	-0.1 / -3.2	2.3 / -1.9	2.4 / -3.8	13.9 / 15.6
9 Elementary occupations	8.8 / 2.9	9.1 / 3.5	9.2 / 11.4	13.3 / 11.0	20.2 / 23.7
All population	5.4 / 3.1	5.7 / 4.3	6.6 / 6.8	5.7 / 2.3	9.5 / 12.1
Eta-Squared (title-by-status)	0.31 / 0.21 (0.22 / 0.12)	0.21 / 0.23 (0.16 / 0.12)	0.28 / 0.43 (0.24 / 0.32)	0.22 / 0.22 (0.21 / 0.18)	0.27 / 0.33 (0.24 / 0.46)

Correlations / Eta-2 statistics significant at 99% probability criteria unless indicated ''*
† Values greater than population mean indicate a major group where average CAMSIS values are more advantaged than ISEI scores, and vice-versa. The former are generally shaded and the latter blank.
‡For UK, US and Turkey, CAMSIS scores for national occupational unit schema (UK and US), or ISCO-68 (Turkey), linked with ISCO-88 categories, using algorithms available from www.cf.ac.uk/socsi/CAMSIS/occunits/distribution.html

Figure 1

Male v's female CAMSIS-CHER scores

ISCO-88 sub-major group scores
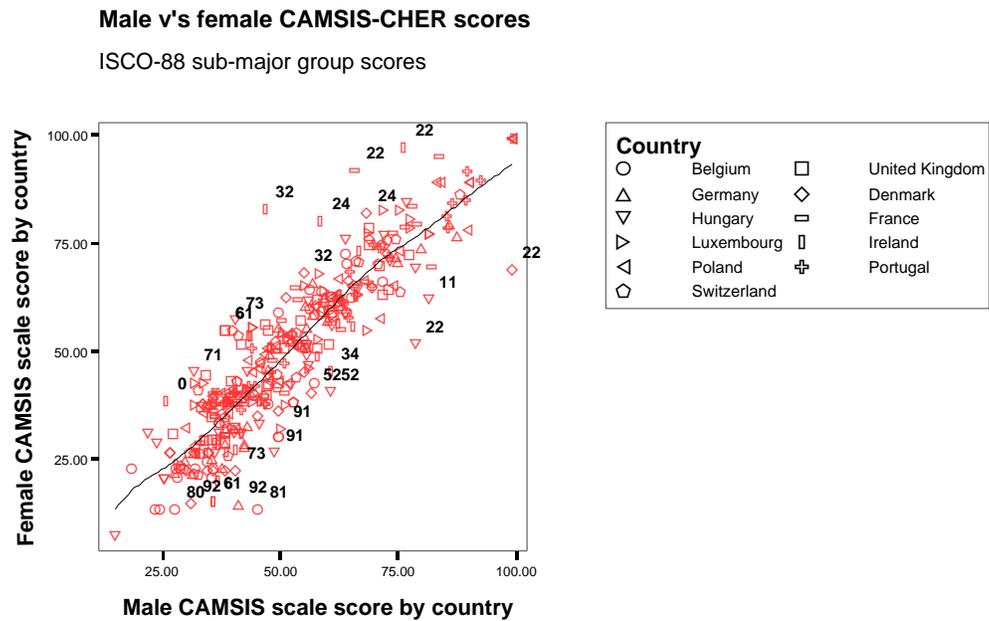
Numbers show selected outlying ISCO-88 sub-major group categories.
'Smoother line' illustrates aggregate level cross-country male-female links.
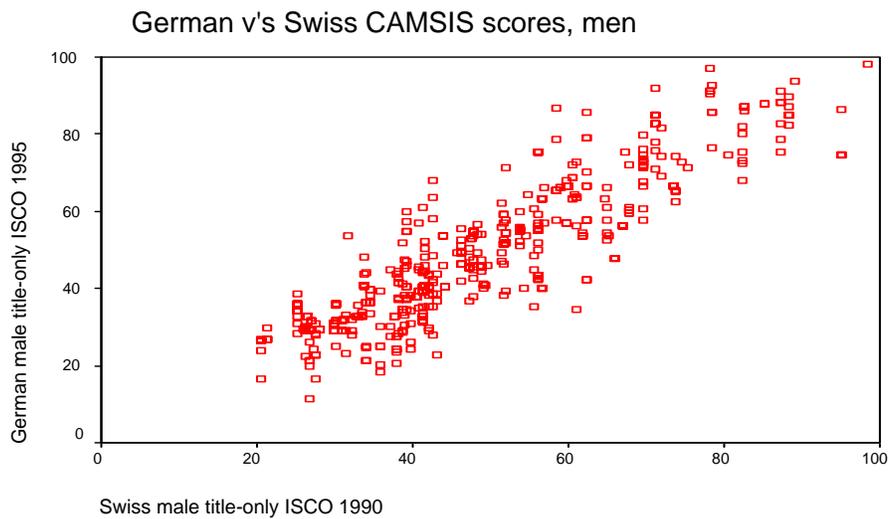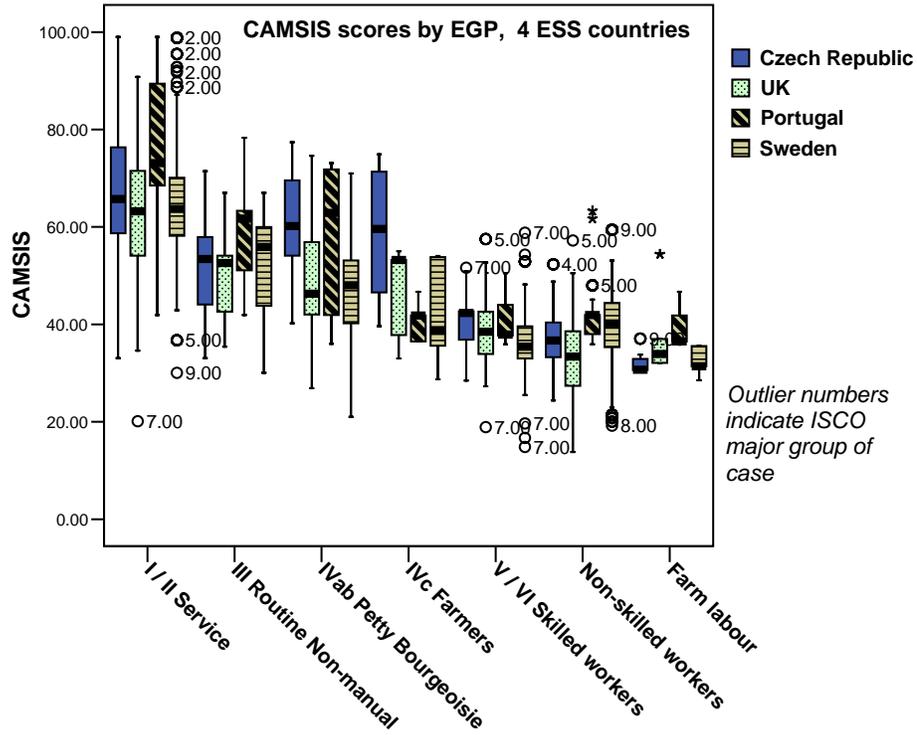
Figure 2

German v's Swiss CAMSIS scores, men

25

Figure 3

Figure 4: